

INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY RESEARCH AND TECHNOLOGY EDUCATION (ICMART-2020)



Indra Ganesan
COLLEGE OF ENGINEERING

Madurai Main Road (IG-456), Madurai, Tamil Nadu - 625 012
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IG Valley, Madurai Main Road
Madurai, Trichy-625 012

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ENGINEERING**

Madurai Main Road (NH-45B) Manikandam, Tiruchirappalli-620012

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Preface

The "International Conference on Multidisciplinary Research and Technology Education" is being organized by IGCE, Trichy, Tamil Nadu dated 27/02/2020.

IGCE has a sprawling student friendly campus with modern infrastructure and facilities which complements the society and scrutiny of the major city of Trichy.

The, International Conference on Multidisciplinary Research and Technology Education was a notable event which brings academic, researchers, Engineers, industry experts and students together.

The purpose of the conference is to discuss applications and developments in the field of Engineering and Technology Education which may can gives international values. Through proper scrutiny and prier reviewer quality papers were recommended by the conference committee. The conferences apply focuses on the tools and techniques for the development on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our management for their support and encouragement. We thank our principal for his guidance. We are also thankful for the cooperative advice from our advisory chairs and co-chairs. We thank all the members of our local organizing committee National and International Advisory committee.


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Director's Desk



It gives me immense pleasure to know that IGCE has taken up the great challenging of organizing an “International Conference on Multidisciplinary Research and Technology Education” on 27/02/2020 at Trichy. I Congratulate the department for their maiden attempt for holding the conference and I am very happy delighted.

The facets of engineering & Technology are changing very fast. Hence science and Technology has to be infused with new variety play a decisive and beneficial role in advancing the well-being of all sections of our society. I hope this conference will bring young scientists, researchers and students in an informal environment for discussing the latest advances in the field of Engineering. Visit of various researches under the roof of IGCE is a matter of pride and immense pleasure to all of us. I hope this will be of great academic value & motivation for scholars and readers.

I convey my blessing & wishes to all the members of IGCE family. Since its inception IGCE is moving towards the heights of education and serving the society with quality education



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Secretary Message



I am pleased to have the opportunity to welcome you to the conference on “International Conference on Recent Advances in Applied Science and Technology” in IGCE. Our country is continuously striving with crisis in various technical fields because of increase in population and industries, commercial and residential demands are more. This conference would be one of the steps to motivate the researches to think and work to remove this social hazard.

I believe that is this conference, the delegates from different parts of the country would exchange their views and explore regarding efficient, secure and reliable researchers to overcome the hazards. I express my gratitude to everyone who involved in making this conference a great successful.

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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

Principal Message

It gives me immense pleasure to present that IGCE is organizing an “International Conference on Multidisciplinary Research and Technology Education” on 27/02/2020, Trichy. The conference is aimed to serve as a premier venue for the dissemination of leading edge research in Engineering & Technology.

I hope that this conference would certainly light up innovative ideas by paving way to new inventions and integrate new technologies in the Engineering & Technology sector and the deliberations in the conference will help researchers from academic, industry and conference will provide a platform for initiating collaborative research projects.

Hence, we welcome you all to IGCE are hope that this conference will act as a medium for all of us present here to ponds upon the topics of discussion challenge us to strive towards it and inspire us at the same time.



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351	An Experimental Study On The Effect Of Treated Grey Water On Workability And Strength Of Plain concrete Sangavi.K ¹ Sathish.S ² Mrs. Nusarth Sulthana S ³
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402	A Survey On Methods And Algorithms In Big Data Stream Mining Janarthanan K1, Kamalesh A ² , Ms.Anbarasi A ³
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406	Applying Data Mining Technique To Predict Trends In Air Pollution In Mumbai Pavithra.N ¹ , Priyanka A ² , Ms.Pappathi ³
407	Forex Exchange Using Big Data Analytics Robinson Isaiah E ¹ Selvi M ² , Ms.Pappathi ³
408	Implementation Of Chatbot That Teach Programming Language Shalini Gayathri S ¹ Sivaraman S ² , Ms.Pappathi ³
409	Diabetes Disease Prediction Using Decision Tree For feature Selection Snekaa R ¹ ,Suganya K ² , Ms.Pappathi ³
410	Intrusion Detection In Software Defined Networking Using Snort And Mirroring Vasanth S ¹ Vijayakaran M ² , Ms.Pappathi ³


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Madurai, Tricity-625 012

1. Effect Of Foundation Type And Compliance On Seismic Response Of Rc Bridges

¹Mr R Sivshankar, ²Augustin Raj J, ³Tiertham M, ⁴Assistant Professor, ^{1,2,3} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract:

The Primary Focus Of The Study Is To Analyze And Understand How The Seismic Response Of Reinforced Concrete Bridges Is Influenced By Two Factors: Foundation Type And Compliance. This Refers To The Type Of Support Structure Upon Which The Bridge Is Built. Different Types Of Foundations, Such As Shallow Foundations, Deep Foundations, Or Special Seismic-Resistant Foundations, Can Have Varying Effects On How A Bridge Responds To Seismic Forces. Compliance Is A Measure Of The Ability Of A Structure Or Material To Deform Under An Applied Load. In The Context Of This Study, Compliance May Refer To How Flexible Or Rigid The Bridge Structure Is, And How This Characteristic Affects Its Behavior During Seismic Events. The Abstract Doesn't Provide Details On The Methodology Employed In The Study, But It Likely Involves A Combination Of Analytical Modeling, Simulations, And Possibly Experimental Data Collection To Assess The Seismic Response Of Rc Bridges Under Different Foundation Types And Compliance Conditions. The Purpose Of The Study Is To Enhance Our Understanding Of How Foundation Type And Compliance Influence The Seismic Performance Of Rc Bridges. This Information Can Be Valuable For Designing And Retrofitting Bridges To Improve Their Resilience Against Seismic Events.

Key Words: Seismic Response, Reinforced Concrete, Bridges, Foundation Type, Compliance, Shallow Foundations, Deep Foundations, Seismic-Resistant Foundations, Structural Deformation.

2. Response Of Half-Through Steel Arch Bridge Using Fiber Model

¹Mr S Ramalingam, ²Mr S Mohamed Bilal, ³V Iswarya, ¹Assistant Professor, ^{2,3} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract:

This Study Investigates The Dynamic Response Of A Half-Through Steel Arch Bridge Utilizing A Fiber Model. The Dynamic Behavior Of The Bridge Is Analyzed Under Various Loading Conditions, Considering Factors Such As Traffic-Induced Vibrations And External Forces. A Fiber Model, Incorporating Advanced Material Properties And Structural Elements, Is Employed To Simulate The Intricate Dynamics Of The Half-Through Steel Arch Bridge. The Research Employs Numerical Simulations And Possibly Experimental Validations To Assess The Bridge's Response To Dynamic Forces. The Findings Aim To Enhance Our Understanding Of The Dynamic Characteristics Of Such Bridge Configurations, Contributing Valuable Insights For The Design, Evaluation, And Maintenance Of Similar Structure.

Keywords: Dynamic Response, Half-Through Steel Arch Bridge, Fiber Model, Dynamics, Loading Conditions


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IG Veohy, Madurai Main Road
Mankandam, Trichy-620 012

3. Design, Specification, Installation, And Maintenance Of Modular Bridge Expansion Joint Systems

***Mr M Kaliraj, ² James Alphonse Raj A, ³ Prasanth N R, ⁴ Assistant Professor, ^{1,2,3,4} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.**

Abstract:

This Study Focuses On The Comprehensive Aspects Of Modular Bridge Expansion Joint Systems, Covering Their Design, Specification, Installation, And Maintenance. Modular Expansion Joints Play A Crucial Role In Accommodating Thermal Movements, Traffic Loads, And Ensuring The Longevity Of Bridge Structures. The Research Delves Into The Design Considerations, Detailing Specifications, Proper Installation Practices, And Effective Maintenance Strategies For Modular Expansion Joint Systems. Through A Combination Of Theoretical Analysis And Practical Insights, The Study Aims To Provide A Holistic Understanding Of The Key Factors Influencing The Performance And Durability Of Modular Bridge Expansion Joints.

Keywords: Modular Bridge, Expansion Joints, Design, Specification, Installation, Maintenance, Thermal Movements, Traffic Loads.

4. Simplified Modeling Of Bridge Response On Soft Soil To Non- Uniform Seismic Excitation

***Mr K Sengottain, ⁴ K. Varivel, ² Preetha S, ^{1,2} Assistant Professor, ³ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.**

Abstract:

This Study Focuses On Simplifying The Modeling Of Bridge Response On Soft Soil Subjected To Non-Uniform Seismic Excitation. The Research Aims To Develop An Efficient And Accurate Model That Considers The Dynamic Interaction Between Bridges And Soft Soil Under Varying Seismic Forces By Employing Simplified Yet Robust Methodologies. This Approach Seeks To Enhance The Understanding Of Bridge Behavior In Such Conditions. The Proposed Model Takes Into Account The Non-Uniformity Of Seismic Excitation, Providing Valuable Insights For The Design And Assessment Of Bridges On Soft Soil Foundations.

Keywords: Bridge Response, Soft Soil, Seismic Excitation, Modeling, Non-Uniform Forces, Dynamic Interaction, Structural Dynamics, Foundation Design, Seismic Assessment, Simplified Methodologies



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Indra Ganesan College of Engineering,
IG Valley, Madurai Main Road
Mankundara, Trichy-620 012

5. Effect Of Friction On Shear Connection In Composite Bridge Beams

¹ Ms G Bharani, ² Ms E Vinodha, ³ Haritham T, ^{1*} Assistant Professor, ² U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Investigates The Influence Of Friction On Shear Connections In Composite Bridge Beams. The Research Aims To Analyze And Understand How Frictional Effects Impact The Behavior And Performance Of Shear Connections Between Steel And Concrete Components In Composite Bridge Structures. Through Experimental And Analytical Approaches, The Study Explores The Role Of Friction In Enhancing Or Limiting The Load-Carrying Capacity And Overall Stability Of Composite Beams. The Findings Contribute To Optimizing Design Guidelines For Composite Bridges, Considering The Crucial Aspect Of Friction In Shear Connections.

Key Words: Composite Bridge Beams, Shear Connection, Frictional Effects, Load-Carrying Capacity, Steel-Concrete, Interaction

6. Cost Efficiency Assessment Of Four Pressure Management Methods In Water Distribution Systems.

¹ Mr S Mohamed Bilal, ² Vignesh K, ³ Yogeshwaran I, ¹ Assistant Professor, ^{2,3} U.G
Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Focuses On The Cost Efficiency Assessment Of Four Pressure Management Methods In Water Distribution Systems. The Study Aims To Evaluate And Compare The Economic Aspects Of Pressure Management Techniques Employed In Water Supply Networks. Through A Comprehensive Analysis, The Research Considers The Financial Implications, Operational Effectiveness, And Sustainability Of The Selected Pressure Management Methods. The Findings Provide Insights For Water Utility Managers And Decision-Makers To Make Informed Choices Regarding Cost-Effective Strategies For Optimizing Water Distribution System Performance.

Keywords: Water Distribution Systems, Cost Efficiency Assessment, Pressure Management Methods, Water Supply Networks, Economic Analysis.

7. Measuring Groundwater Velocity Method Based On Ground Water Flow-Induced Cooling

¹ Ms E Vinodha, ² Ms G Bharani, ³ Danish Ahmed Shareef K, ^{1*} Assistant
Professor, ² U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Introduces A Novel Method For Measuring Groundwater Velocity By Leveraging Groundwater Flow-Induced Cooling. Traditional Groundwater Velocity Measurement Techniques Often Rely On Complex And Costly Equipment. In Contrast, Our Proposed Method Utilizes The Cooling Effect Generated By The Flow Of Groundwater To Infer Velocity. The Approach Involves Monitoring Temperature Variations In The Subsurface, Correlating These Changes With Groundwater Flow Rates, And Subsequently Calculating Groundwater Velocity.

Keywords: Groundwater Velocity, Groundwater Flow, Temperature Monitoring, Flow-Induced Cooling, Subsurface Hydrology, Velocity Measurement Method, Hydrogeology.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mandaidam, Trichy-620 012

8. A Novel Calibration Of The Tilting Weir As A Flow Measurement Structure And Enhanced

¹Ms K. Gayathri, ²Selvanadhini, ³Kalpana K, ⁴Assistant Professor, ⁵U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Presents A Novel And Enhanced Calibration Approach For The Tilting Weir As A Flow Measurement Structure. The Tilting Weir Is A Widely Used Device For Measuring Open- Channel Flows, But Its Accuracy Is Often Influenced By Various Factors, Including Channel Geometry And Flow Conditions. Our Study Proposes An Innovative Calibration Method That Takes Into Account These Influencing Factors, Resulting In An Improved And More Accurate Estimation Of Flow Rates. The Approach Integrates Advanced Sensor Technologies And Computational Models To Optimize The Calibration Process. Experimental Validations Were Conducted Under Diverse Flow Conditions To Demonstrate The Effectiveness Of The Enhanced Calibration, Showing Significant Improvements In The Accuracy And Reliability Of Flow Measurements Using The Tilting Weir.

Keywords: Tilting Weir, Flow Measurement, Calibration, Open-Channel Flow, Sensor Technologies, Computational Models, Calibration Methods, Flow Rates, Channel Geometry, Experimental Validation

10.Effects Of Bottom-Up Blockage On Entrance Loss Coefficients And Head-Discharge Relationships For Pipe Culvert Inlets:Comparisons Of Theoretical Methods And Experimental Results

¹Mr K Saravanan, ²B.Sekar, ³Navinkumar R, ⁴Assistant Professor, ⁵U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Investigates The Effects Of Bottom-Up Blockage On Entrance Loss Coefficients And Head-Discharge Relationships For Pipe Culvert Inlets. Bottom-Up Blockage, Resulting From Sediment Accumulation Or Debris, Can Significantly Alter The Hydraulic Performance Of Culvert Inlets. The Research Compares Various Theoretical Methods And Experimental Results To Analyze The Impact Of Blockage On Entrance Loss Coefficients And The Resulting Head-Discharge Relationships. Laboratory Experiments Were Conducted With Controlled Blockage Scenarios, And The Findings Were Compared With Predictions From Existing Theoretical Models. The Study Provides Insights Into The Accuracy And Limitations Of Different Theoretical Approaches In Predicting The Hydraulic Behavior Of Pipe Culvert Inlets Under Varying Degrees Of Bottom-Up Blockage.

Keywords: Bottom-Up Blockage, Entrance Loss Coefficients, Head-Discharge Relationships, Pipe Culvert Inlets, Theoretical Methods, Experimental Results, Sediment Accumulation, Debris Blockage, Hydraulic Performance, Culvert Inlet Behavior.



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**Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikantam, Trichy-620 012**

9. Cost Efficiency Assessment Of Four Pressure Management Methods In Water Distribution Systems

¹Mr R Sivashankar, ² Mr K Saravanan, ³ Ishwarya V, ^{1,2,3} Assistant Professor, ³ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Focuses On The Cost Efficiency Assessment Of Four Pressure Management Methods In Water Distribution Systems. Efficient Pressure Management Is Crucial For Optimizing Water Distribution Networks And Reducing Energy Consumption. The Study Evaluates The Economic Aspects Of Four Distinct Pressure Management Strategies: Pressure Reducing Valves, Variable Speed Pumps, Time-Based Control, And Demand-Driven Control. A Comprehensive Cost Analysis Is Conducted, Considering Installation, Maintenance, And Energy Costs Associated With Each Method. The Research Aims To Provide Water Utilities And Decision-Makers With Valuable Insights Into The Cost-Effectiveness Of Different Pressure Management Approaches, Aiding In The Selection Of Optimal Strategies For Enhancing Overall System Efficiency.

Keywords: Cost Efficiency, Pressure Management, Water Distribution Systems, Pressure Reducing Valves, Variable Speed Pumps, Time-Based Control, Demand-Driven Control, Economic Analysis, Energy Consumption, Water Utilities.

10. Maximum Entropy-Mixed Copula Method For The Simulation Of Monthly Stream Flow

¹Mr S Ramalingam, ² Raj Gokul B³ Thirumalai Vasam T, ^{1,2,3} Assistant Professor, ^{2,3} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Introduces The Maximum Entropy-Mixed Copula Method As An Innovative Approach For Simulating Monthly Stream Flow. Accurate Simulation Of Hydrological Processes Is Essential For Water Resource Management And Planning. The Proposed Method Combines The Maximum Entropy Principle With Mixed Copula Functions To Capture The Complex Dependencies Within Hydrological Data. The Approach Enables The Generation Of Synthetic Monthly Stream Flow Series That Preserve The Marginal Distributions And Copula-Based Dependence Structures Observed In Historical Data. The Efficacy Of The Method Is Demonstrated Through Comparison With Traditional Simulation Techniques, Showcasing Its Ability To Accurately Reproduce Key Statistical Properties Of Monthly Stream Flow.

Keywords: Maximum Entropy, Mixed Copula Method, Hydrological Simulation, Monthly Stream Flow, Copula Functions, Water Resource Management, Hydrological Data, Dependence Structures, Synthetic Series, Statistical Properties.

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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Madikondam, Trichy-620 012

11. Measuring Groundwater Velocity: Method Based On Groundwater Flow-Induced Cooling

¹Mr M Kaliraj, ²Karthick.K, ³Yageshwaran T. ¹Assistant Professor, ^{2,3} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Proposes A Novel Method For Measuring Groundwater Velocity Based On Groundwater Flow-Induced Cooling. Traditional Groundwater Velocity Measurement Techniques Often Rely On Complex And Expensive Equipment. In Contrast, The Proposed Method Utilizes The Cooling Effect Generated By The Flow Of Groundwater To Infer Velocity. The Approach Involves Monitoring Temperature Changes In The Subsurface And Correlating These Changes With Groundwater Flow Rates. Field Experiments Were Conducted To Validate The Method's Effectiveness, Demonstrating Its Potential As A Cost-Effective And Non-Intrusive Tool For Assessing Groundwater Velocity In Diverse Hydro Geological Settings.

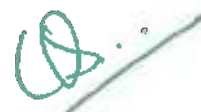
Keywords: Groundwater Velocity Measurement, Groundwater Flow-Induced Cooling, Temperature Monitoring, Subsurface Hydrology, Velocity Estimation, Hydro Geological Assessment, Field Experiments, Groundwater Flow Rates, Temperature Changes, Non-Intrusive Methods.

12. Leveraging Deep Reinforcement Learning For Water Distribution Systems With Large Action Spaces And Uncertainties: Drl-Epanet For Pressure Control

¹Mr K Sengottain, ²Mr S Mohamed Bilal, ³Manojkumar A, ^{1,2} Assistant Professor, ³ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Introduces A Novel Approach For Optimizing Water Distribution Systems With Large Action Spaces And Uncertainties Using Deep Reinforcement Learning (Drl). Focusing On Pressure Control In Water Distribution Networks, The Study Presents Drl-Epanet, A Framework That Integrates Drl Algorithms With The Epanet Hydraulic Simulator. The Proposed Method Addresses The Challenges Associated With Large Action Spaces And Uncertainties In Complex Water Systems. Through Extensive Simulations And Comparisons With Traditional Control Strategies, The Efficacy Of Drl-Epanet Is Demonstrated, Showcasing Its Ability To Adapt And Learn Optimal Pressure Control Policies In Real-Time, Thereby Enhancing The Efficiency And Resilience Of Water Distribution Systems.

Keywords: Deep Reinforcement Learning (Drl), Water Distribution Systems, Epanet, Pressure Control, Optimization, Large Action Spaces, Uncertainties, Hydraulic Simulation, Adaptive Control, Resilience, Efficiency.



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Indra Ganesan College of Engineering
18 Valley, Madurai Main Road
Manikandam, Trichy-620 012

13. Effects Of Bed Material And Downstream Flow Depth On The Evolution Of Bed In A Right-Angled Open-Channel Confluence

¹Ms G Bharani, ²Srinandhal , ³Preetha S , ⁴Assistant Professor, ^{1,2,3} U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Investigates The Effects Of Bed Material Properties And Downstream Flow Depth On The Morphological Evolution Of The Bed In A Right-Angled Open-Channel Confluence. The Confluence Of Water Flows Is A Common Feature In River Systems, Influencing Sediment Transport And Bed Morphology. Through Laboratory Experiments And Numerical Simulations, The Research Explores The Interplay Between Different Bed Materials And Downstream Flow Depths, Examining Their Impact On Bed Morphology Changes Over Time., Aiding In The Understanding Of Riverbed Evolution In Similar Hydraulic Settings.

Keywords: Open-Channel-Confluence, Bed Material, Downstream Flow-Depth, Sediment-Transport, River Morphology, Right-Angled Confluence, Laboratory Experiments, Numerical Simulations, Bed Evolution, Hydraulic Settings.

14. Reducing Infiltration And Inflow In Small Collection Systems: Environmental, Economic, And Additional Impacts

¹Mr S Mohamed Hilal, ² Syed Anirdeen S, ³Aravind A, ⁴Assistant Professor, ^{1,2,3} U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Explores Strategies For Reducing Infiltration And Inflow (I&I) In Small Wastewater Collection Systems, Considering The Multifaceted Impacts On The Environment And Economy. Excessive I&I In Sewer Networks Can Lead To Operational Challenges, Increased Treatment Costs, And Environmental Consequences. The Research Investigates Various Methods To Mitigate I&I, Emphasizing Their Environmental Efficacy And Economic Feasibility. Through A Comprehensive Analysis Of Case Studies And Data-Driven Approaches, The Study Aims To Provide Insights Into The Diverse Impacts Of I&I Reduction Efforts, Offering A Balanced Perspective On The Environmental Benefits, Economic Implications, And Additional Considerations Associated With Implementing Such Strategies In Small Collection Systems.

Keywords: Infiltration And Inflow, Wastewater Collection Systems, Environmental Impact, Economic Analysis, Sewer Network Management, Sustainable Infrastructure, Water Quality, Cost-Benefit Analysis, Small-Scale Solutions, Case Studies.

15. Recalculating Design Flood Values Under Non Stationary Conditions In The Yalong River Basin, China.

¹Ms E Vinodha, ² Ms E Vinodha, ³ Navinkumar R, ^{1,2,3} Assistant Professor, ³ U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Focuses On The Recalculation Of Design Flood Values In The Yalong River Basin, China, Under Non-Stationary Conditions. With Climate Change And Evolving Land Use Patterns, Traditional Hydrological Design Approaches May Become Inadequate. The Study Employs Advanced Statistical And Hydrological Modeling Techniques To Assess The Impact Of Non-Stationary On Design Flood Estimation. By Considering Changing Climate Patterns And Land Use Dynamics, The Research Aims To Provide Updated And More Accurate Design Flood Values For Improved Water Resource Management And Infrastructure Planning In The Yalong River Basin.

Keywords: Design Flood, Non-Stationary Conditions, Hydrological Modeling, Climate Change, Yalong River Basin, Flood Risk Assessment, Water Resource Management, Land Use Dynamics, Statistical Analysis, Infrastructure Planning.

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Indra Ganesan College of Engineering
IS Valley, Madurai Main Road
Manikandam, Trichy-620 012

16. Effects Of Bed Material And Downstream Flow Depth On The Evolution Of Bed In A Right-Angled Open-Channel Confluence

¹Ms K Gayathri, ²Ishwarya V, ³Preetha S, ⁴Assistant Professor, ⁵U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Investigates The Effects Of Bed Material Characteristics And Downstream Flow Depth On The Morphological Evolution Of The Bed In A Right-Angled Open-Channel Confluence. Using Laboratory Experiments And Numerical Simulations, The Research Analyzes The Interactions Between Sediment Transport, Bed Morphology, And Flow Dynamics At The Confluence Point. The Findings Contribute To A Better Understanding Of The Complex Processes Influencing Bed Evolution

In Confluence Zones, Shedding Light On The Role Of Bed Material Properties And Downstream Flow Conditions. The Results Have Implications For River Engineering And Management, Offering Insights Into Optimizing Sediment Transport Models And Design Practices For Open-Channel Confluences.

Keywords: Bed Material, Confluence, Sediment Transport, Flow Depth, Morphological Evolution, Open-Channel Hydraulics, River Engineering, Sedimentation Patterns, Numerical Simulation, Laboratory Experiments.

17. Reducing Infiltration And Inflow In Small Collection Systems: Environmental, Economic, And Additional Impacts

¹Mr K Saravanan, ²Syed Amirdeen S, ³Augustin Raj J, ⁴Assistant Professor, ⁵U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Investigates Strategies For Mitigating Infiltration And Inflow (I&I) In Small Wastewater Collection Systems, Focusing On The Environmental, Economic, And Additional Impacts Of Such Interventions. Excessive I&I Can Pose Operational Challenges, Increase Treatment Costs, And Have Broader Environmental Consequences. The Research Employs A Multidisciplinary Approach, Combining Environmental Science, Engineering, And Economic Analysis To Evaluate The Effectiveness Of Various I&I Reduction Methods. By Examining Case Studies And Employing Data-Driven Methodologies, The Study Aims To Provide A Comprehensive Understanding Of The Environmental And Economic Implications, As Well As Other Considerations Associated With Reducing I&I In Small Collection Systems.

Keywords: Infiltration And Inflow, Wastewater Collection Systems, Environmental Impact, Economic.



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Indra Ganesan College of Engineering,
IG Valley, Madurai Main Road
Maankondam, Trichy-620 012

18. Groyne-Induced Effects On Channel-Shoal Exchange And Saltwater Intrusion In Estuarine Environments

¹Mr R Sivashankar, ²Syed Amirdeen S, ³Augustin Raj J, ⁴Assistant Professor, ⁵ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: Estuarine Environments Are Dynamic Ecosystems Influenced By A Myriad Of Factors, Including Anthropogenic Modifications Such As The Installation Of Groynes. This Study Investigates The Groyne-Induced Effects On Channel-Shoal Exchange And Saltwater Intrusion Within Estuarine Systems. Groynes, Often Employed For Coastal Engineering Purposes, Can Significantly Alter Sediment Transport, Channel Morphology, And Hydrodynamic Patterns In Estuaries. The Research Employs A Multidisciplinary Approach, Combining Field Measurements, Numerical Modeling, And Remote Sensing Techniques To Assess Can Have Profound Implications For Biodiversity, Water Quality, And Ecosystem Health. The Findings Provide Valuable Insights Into The Complex Interplay Between Engineering Interventions And Natural Processes In Estuarine Environments.

Keywords: Estuarine Dynamics, Groynes, Sediment Transport, Channel-Shoal Exchange, Saltwater Intrusion, Coastal Engineering, Hydrodynamics, Estuarine Management, Biodiversity, Water Quality, Ecosystem Health.

19. Numerical Modeling Of Downstream Morphological Evolution During Mount Polley Tailings Dam Failure

¹Mr S Ramalingam, ²Mathiyazhagan, ³Thirumalai Vasan T, ⁴Assistant Professor, ⁵ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Employs Numerical Modeling Techniques To Investigate The Downstream Morphological Evolution Resulting From The Mount Polley Tailings Dam Failure. The Catastrophic Release Of Tailings Material Into The Downstream Environment Poses Significant Challenges In Understanding The Subsequent Morphological Changes In River Channels. Through The Application Of Advanced Numerical Models, The Research Aims To Simulate And Analyze The Dynamic Processes Governing Sediment Transport, Erosion, And Deposition In The Affected River Reaches. The Study Contributes To A Comprehensive Understanding Of The Geomorphic Response To Tailings Dam Failures, Aiding In The Development Of Effective Mitigation Strategies And Improved Risk Assessment For Similar Incidents. The Findings Have Broader Implications For Enhancing The Resilience Of Riverine Ecosystems In The Aftermath Of Large-Scale Environmental Disasters.

Keywords: Numerical Modeling, Mount Polley Tailings Dam, Downstream Morphological Evolution, Sediment Transport, Erosion, Deposition, River Channels, Geomorphic Response, Tailings Dam Failure, Environmental Disasters, Risk Assessment, Mitigation Strategies.

20. Quantitative Analysis Of Correlation Between Us Army Installation Characteristics And Water Price

¹Mr M Kaliraj, ²T Raja, ³K.Harini, ⁴Preetha S, ^{1,2,3} Assistant Professor, ⁴U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Research Conducts A Quantitative Analysis To Examine The Correlation Between Characteristics Of United States Army Installations And Water Prices. Understanding The Factors Influencing Water Pricing In Military Installations Is Crucial For Sustainable Resource Management And Budgetary Planning. The Study Utilizes Statistical Methods To Analyze Installation-Specific Attributes, Such As Size, Location, Water Demand, And Infrastructure, In Relation To The Corresponding Water Pricing Structures. The Findings Contribute Valuable Insights Into The Complex Relationship Between Military Installation Characteristics And Water Pricing, Informing Policy Decisions And Resource Allocation Strategies. This Research Aims To Enhance The Efficiency Of Water Management Practices Within Us Army Installations While Addressing Broader Concerns Related To Resource Conservation And Cost-Effectiveness.

Keywords: Quantitative Analysis, Us Army Installations, Water Pricing, Resource Management, Budgetary Planning, Statistical Methods, Water Demand, Infrastructure, Military Installation Characteristics, Sustainable Practices, Resource Conservation, Cost-Effectiveness.

21. Removal Of 1,4-Dioxane In The Presence Of Chlorinated Solvents And Other Substances: A Review On Current Strategies And Future Perspectives

¹Ms G Bharani, ²Ms K Gayathri, ³Karthick K, ^{1,2} Assistant Professor, ³U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Comprehensive Review Examines Strategies For The Removal Of 1,4-Dioxane In The Presence Of Chlorinated Solvents And Other Co-Occurring Substances. 1,4-Dioxane, A Persistent Organic Pollutant And Potential Carcinogen, Frequently Coexists With Chlorinated Solvents In Contaminated Environments. The Study Provides An Overview Of Current Removal Methods, Including Physicochemical And Biological Approaches, And Evaluates Their Effectiveness In The Complex Context Of Mixed Contaminant Scenarios. Additionally, The Review Discusses Challenges Associated With Simultaneous Removal Of 1,4-Dioxane And Chlorinated Solvents, Highlighting Gaps In Existing Knowledge. Future Perspectives And Emerging Technologies For Enhanced Remediation Strategies Are Explored, Aiming To Guide Further Research And Development In Addressing These Challenging Environmental Contamination Scenarios.

Keywords: 1,4-Dioxane, Chlorinated Solvents, Environmental Remediation, Co-Contamination, Water Treatment, Contaminant Removal, Physicochemical Methods, Biological Approaches, Mixed Contaminants, Future Perspectives, Emerging Technologies, Environmental Pollution.


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16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

22. Numerical Optimization Of Wastewater Treatment Plant Design For A High-Nitrate Industrial Waste

¹Mr S Mohamed Bilal, ²Kalpna K. ³Preethi S. ¹Assistant Professor, ^{2,3} U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Focuses On The Numerical Optimization Of Wastewater Treatment Plant Design Tailored For The Efficient Removal Of High-Nitrate Industrial Waste. High Nitrate Concentrations In Industrial Wastewater Pose Environmental Challenges, Necessitating Innovative Treatment Strategies. Utilizing Numerical Optimization Techniques, The Research Explores Diverse Configurations And Operational Parameters To Enhance The Treatment Plant's Efficacy In Nitrate Removal. The Study Integrates Mathematical Modeling, Simulation, And Optimization Algorithms To Identify Optimal Designs That Balance Treatment Efficiency, Cost-Effectiveness, And Environmental Sustainability. The Findings Contribute Insights Into Tailored Solutions For Wastewater Treatment In High-Nitrate Industrial Settings, Addressing Both Environmental Compliance And Resource Efficiency.

Keywords: Wastewater Treatment Plant Design, Numerical Optimization, High-Nitrate Industrial Waste, Nitrate Removal, Mathematical Modeling, Simulation, Optimization Algorithms, Treatment

23. Structural And Microbial Dynamics Analyses Of Mabr Biofilms

¹Ms E Vinodha, ²G Vengateshwaran, ³Haritham T, ^{1,2} Assistant Professor, ³ U.G
Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy

Abstract: This Study Delves Into The Structural And Microbial Dynamics Of Membrane-Aerated Biofilm Reactor (Mabr) Biofilms, Offering Insights Into The Intricate Interplay Between Biofilm Architecture And Microbial Community Composition. By Employing Advanced Imaging Techniques And Molecular Analyses, The Research Characterizes The Spatial Organization Of Biofilm Structures And Investigates The Microbial Diversity And Activity Within Mabr Systems. The Study Aims To Unravel The Dynamic Relationships Between Biofilm Morphology, Microbial Community Development, And Reactor Performance. Understanding These Dynamics Is Essential For Optimizing Mabr Technologies In Various Applications, Including Wastewater Treatment And Resource Recovery.

Keywords: Mabr, Biofilm Dynamics, Microbial Community, Structural Analysis, Imaging Techniques, Molecular Analyses, Biofilm Architecture, Microbial Diversity, Reactor Performance, Wastewater Treatment, Resource Recovery.

24. Spatial And Temporal Variability Of Water Application Via A Center Pivot

¹Ms K Gayathri, ² Ishwarya V, ³Preetha S, ⁴Assistant Professor, ⁵ U.G Student
Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy

Abstract: This Research Investigates The Spatial And Temporal Variability Of Water Application Through A Center Pivot Irrigation System, Aiming To Enhance Precision Irrigation Practices. Utilizing Geospatial Technologies And Data Analytics, The Study Analyzes The Distribution And Timing Of Water Application Across Fields Served By Center Pivot Systems. Factors Such As Topography, Soil Characteristics, And Operational Parameters Are Considered To Understand The Variability In Water Application. The Findings Provide Valuable Insights Into Optimizing Irrigation Efficiency, Water Resource Management, And Crop Performance. The Research Contributes To The Development Of Sustainable And Technologically Advanced Irrigation Practices For Agriculture.

Keywords: Center Pivot Irrigation, Water Application Variability, Precision Irrigation, Geospatial Technologies, Data Analytics, Irrigation Efficiency, Water Resource Management, Crop Performance, Spatial Variability, Temporal Variability, Sustainable Agriculture.

25. Economic Impact And Decomposition Analysis Of Income Change Vis-À-Vis Drip And Conventional Irrigation Technology In Bananas: A Case Study Of The South Gujarat Region In India

¹Mr K Saravanan, ² Vignesh K, ³Assistant Professor, ⁴ U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy.

Abstract: This Study Conducts An Economic Impact And Decomposition Analysis To Assess Income Changes Associated With The Adoption Of Drip And Conventional Irrigation Technologies In Banana Cultivation, Focusing On The South Gujarat Region In India. By Employing Rigorous Economic Modeling And Data Analytics, The Research Evaluates The Economic Implications Of Technology Adoption On Farm Incomes. Decomposition Analysis Dissects The Various Factors Contributing To Income Changes, Shedding Light On The Specific Components Influenced By The Choice Of Irrigation Technology. The Findings Contribute To Evidence-Based Decision-Making For Farmers, Policymakers, And Stakeholders, Facilitating Sustainable Agricultural Practices And Improved Livelihoods In The Banana Farming Sector.

Keywords: Economic Impact, Decomposition Analysis, Income Change, Drip Irrigation, Conventional Irrigation, Banana Cultivation, South Gujarat, India, Agricultural Technology Adoption, Farm Incomes, Sustainable Agriculture, Livelihood Improvement.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Madurai, Trichy-620 012

26. Smart Irrigation Controllers In Residential Applications And The Potential Of Integrated Water Distribution Systems

Mr K. Sengottain, Danish Ahamed Shareef K, Augustin Raj B, Assistant Professor, ^{1*} U.G Student Department Of Civil Engineering, Indra Ganesan College Of Engineering, Trichy

Abstract: This Study Explores The Application Of Smart Irrigation Controllers In Residential Settings And Investigates The Potential Synergies With Integrated Water Distribution Systems. Smart Irrigation Controllers Leverage Advanced Technologies To Optimize Water Usage, Enhancing Efficiency And Sustainability In Residential Landscaping. The Research Employs A Multidisciplinary Approach, Incorporating Technological Evaluations, Contribute Insights Into The Effectiveness Of Smart Irrigation Controllers, Offering A Pathway For The Development Of Integrated And Intelligent Water Management Solutions For Residential Areas.

Keywords: Smart Irrigation Controllers, Residential Applications, Water Distribution Systems, Water Management, Sustainability, Landscaping, Integrated Systems, User Behavior, Technological Evaluations, Efficiency, Residential Water Use, Intelligent Water Management.

28. Title - Next-Generation Intrusion Detection Systems: Machine Learning Approaches

¹Dr.P.Subharam Professor/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12 2

²Varsha S UG Student/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12.

Abstract:

This Study Investigates The Evolution Of Intrusion Detection Systems (Ids) By Leveraging Cutting-Edge Machine Learning (ML) Approaches. Focusing On Next-Generation Advancements, The Research Explores The Integration Of Supervised And Unsupervised Learning, Deep Learning, And Ensemble Techniques. The Goal Is To Enhance The Efficiency, Accuracy, And Adaptability Of Ids In Identifying And Mitigating Diverse Cyber Threats. The Findings Contribute To The Development Of More Robust And Proactive Security Systems In The Ever-Evolving Landscape Of Network Security.

Keywords:

Next-Generation Intrusion Detection Systems, Ng-Ids, Machine Learning, Cybersecurity, Deep Learning, Ensemble Methods, Intrusion Detection, Threat Detection, Cyber Threats, Security Algorithms.



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Indra Ganesan College of Engineering
HS Valley, Madurai Main Road
Manikandam, Trichy-620 012

29. Title – Quantum Cryptography: A Paradigm Shift In Network Security

1 ¹Dr.P.Subharajam Professor/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 ²Vigneshwarachari S UG Student/Cse Indra Ganesan College Of Engineering, manikandam, Trichy 12

Abstract:

Quantum Cryptography Represents A Groundbreaking Paradigm Shift In Network Security, Offering A Fundamentally Secure Framework That Leverages The Principles Of Quantum Mechanics. Unlike Classical Cryptographic Methods, Quantum Cryptography Harnesses The Unique Properties Of Quantum Superposition And Entanglement To Ensure The Unconditional Security Of Communication Channels. This Paper Explores The Key Principles And Mechanisms Underlying Quantum Cryptography. Analysis, The Paper Underscores The Transformative Impact Of Quantum Cryptography On Ensuring The Integrity And Confidentiality Of Sensitive Information In The Era Of Increasingly Sophisticated Cyber Threats.

Keywords:

Quantum Cryptography, Network Security, Quantum Mechanics, Quantum Key Distribution, Quantum Key Exchange, Unconditional Security, Cryptographic Paradigm Shift, Quantum

30. Title-Zero Trust Networks: Design, Implementation, And Evaluation

1 ¹Dr.P.Subharajam Professor/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 ²Vijaya lakshmi M UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 1.

Abstract:

This Research Paper Examines The Comprehensive Process Of Designing, Implementing, And Evaluating Zero Trust Networks (Ztns) As A Modern Security Paradigm. The Zero Trust Model Advocates For Perpetual Verification And Stringent Access Controls, Redefining Traditional Security Approaches. The Study Provides Insights Into The Key Components Of Ztn Implementation, Emphasizing Continuous Monitoring And Adaptive Risk Assessment. Through Practical Considerations And Case Studies, The Paper Evaluates The Efficacy Of Ztns In Enhancing Network Security And Resilience Against Evolving Cyber Threats.

Keywords:

Zero Trust Networks, Ztn, Cybersecurity, Network Security, Access Controls, Continuous Monitoring, Risk Assessment, Security Paradigm, Implementation, Evaluation, Cyber Threats.

31. Title -IoT Security: Challenges And Solutions For Securing The Internet Of Things

¹Dr.P.Subhramaniam Professor/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12.

^{1 2}Vijayalakshmi P UG Student/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12

Abstract:

This Paper Addresses The Pressing Issue Of Iot Security, Examining The Challenges Associated With Securing The Internet Of Things (Iot) And Proposing Effective Solutions. As The Proliferation Of Interconnected Devices Continues, Vulnerabilities In Iot Ecosystems Pose Significant Risks. The Study Delves Into Key Challenges Such As Device Authentication, Data Privacy, And Network Integrity, Exploring Innovative Solutions Including Blockchain, Encryption Protocols, And Secure Firmware Updates. By Analyzing These Challenges And Presenting Viable Solutions, The Paper Contributes To The Ongoing Discourse On Enhancing The Security Posture Of Iot Environments.

Keywords:

Iot Security, Internet Of Things, Cybersecurity, Device Authentication, Data Privacy, Network Integrity, Blockchain, Encryption Protocols, Firmware Updates, Iot Ecosystems, Security Challenges, Solutions.

32. Title -Blockchain For Network Security: Decentralized Approaches To Enhance Trust

¹Dr.P.Subhramaniam Professor/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12.

^{2 2}Vijayalakshmi P UG Student/Cse Indra Ganesan College Of Engineering,Manikandam,Trichy 12

Abstract:

This Paper Investigates The Application Of Blockchain Technology In The Realm Of Network Security, Focusing On Decentralized Approaches To Bolster Trust. Blockchain's Inherent Features, Such As Immutability, Transparency, And Decentralized Consensus, Offer Promising Solutions To Address Contemporary Challenges In Securing Networks. The Study Explores How Blockchain Can Enhance Authentication, Secure Data Transmission, And Mitigate Threats Through Decentralized Trust Models. By Analyzing The Integration Of Blockchain Into Network Security Practices, This Research Contributes Valuable Insights To The Ongoing Evolution Of Secure And Trustworthy Digital Infrastructures.

Keywords:

Blockchain, Network Security, Decentralization, Trust, Authentication, Data Transmission, Cybersecurity, Decentralized Consensus, Immutability, Threat Mitigation, Digital Infrastructures.

33. Title-Optimizing Resource Allocation In Cloud Environments: A Dynamic And Scalable Approach

1 ¹Dr.K. Pandiyarajan Professor/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 ²Jothika R Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Presents A Dynamic And Scalable Approach For Optimizing Resource Allocation In Cloud Environments. As The Demand For Cloud Services Continues To Grow, Efficient Resource Management Becomes Critical For Maximizing Performance And Minimizing Costs. The Proposed Approach Leverages Dynamic Adjustments Based On Real-Time Demand Fluctuations, Ensuring Optimal Utilization Of Cloud Resources. The Study Explores Adaptive Algorithms, Auto-Scaling Approach In Enhancing The Overall Performance And Cost-Effectiveness Of Cloud-Based Infrastructures.

Keywords:

Cloud Computing, Resource Allocation, Optimization, Dynamic Scaling, Auto-Scaling, Adaptive Algorithms, Predictive Analytics, Cloud Services, Scalability, Cost-Effectiveness,

34. Title- Security And Privacy In Multi-Cloud Environments: Challenges And Solutions

1 ¹Dr.K. Pandiyarajan Professor/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy 12

2 ²Karthikeyan J Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates The Complex Landscape Of Security And Privacy Issues In Multi-Cloud Environments, Highlighting Challenges And Proposing Robust Solutions. As Organizations Increasingly Adopt Multi-Cloud Strategies To Leverage Diverse Services, Concerns Related To Data Protection, Access Control, And Compliance Become Paramount. The Study Examines Key Challenges Such As Inter-Cloud Communication Security, Data Integrity, And Regulatory Compliance. Solutions Encompass Encryption Strategies, Identity Management Protocols, And Compliance Frameworks Tailored For Multi-Cloud Architectures. By Addressing These Challenges And Offering Practical Solutions, This Research Contributes To Establishing A Secure And Privacy-Respecting Foundation For Multi-Cloud Deployments.

Keywords:

Multi-Cloud Environments, Security, Privacy, Data Protection, Access Control, Inter-Cloud Communication, Compliance, Encryption, Identity Management, Cloud Security Challenges, Privacy Solutions.



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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

35. Title - Serverless Computing: Architectures, Challenges, And Emerging Trends

1 Dr.K. Pandiyarajan Professor/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.2

2 Keerthana K Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Provides A Comprehensive Exploration Of Serverless Computing, Covering Its Architectures, Challenges, And Emerging Trends. Serverless Computing, Characterized By Event-Driven, Function-As-A-Service (FaaS) Models, Has Gained Prominence For Its Scalability And Cost-Efficiency. The Study Examines The Fundamental Concepts Of Serverless Architectures, Challenges Including Cold Starts And Security Concerns, And The Evolving Trends Shaping This Computing Paradigm. By Delving Into Real-World Applications, The Paper Contributes Insights Into The Practical Implications Of Serverless Computing And Its Potential To Reshape The Landscape Of Modern Software Development.

Keywords:

Serverless Computing, Function-As-A-Service, FaaS, Cloud Computing, Scalability, Cost Efficiency, Serverless Architectures, Cold Starts, Security, Emerging Trends, Modern Software

36. Title -Energy-Efficient Data Centers: Towards Sustainable Cloud Computing

1 Dr.K. Pandiyarajan Professor/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 2

Keerthana P Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy

Abstract:

This Paper Explores The Imperative Shift Towards Sustainable Cloud Computing Through The Lens Of Energy-Efficient Data Centers. As The Demand For Cloud Services Escalates, Data Centers Consume Substantial Energy, Prompting The Need For Eco-Friendly Solutions. The Study Investigates Strategies And Technologies Aimed At Optimizing Energy Usage, Such As Advanced Cooling Systems, Renewable Energy Integration, And Workload Consolidation. By Assessing The Environmental Impact And Economic Benefits Of Energy-Efficient Practices, The Paper Contributes To The Ongoing Discourse On Fostering Sustainability In The Rapidly Expanding Realm Of Cloud Computing.

Keywords:

Energy-Efficient Data Centers, Sustainable Cloud Computing, Green Computing, Renewable Energy, Advanced Cooling Systems, Workload Consolidation, Environmental Impact, Energy Optimization, Cloud Services, Eco-Friendly Solutions.

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IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

37. Title -Federated Clouds: Interoperability And Resource Sharing Across Cloud Providers

I Dr.K. Pandiyarajan Professor/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy 12. 2

Kirubakaran M Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Concept Of Federated Clouds, Focusing On Interoperability And Resource Sharing Across Multiple Cloud Providers. Federated Clouds Offer A Paradigm Where Distinct Cloud Infrastructures Collaborate Seamlessly, Enabling Efficient Resource Utilization And Enhancing Scalability. The Study Examines Challenges Related To Interoperability Standards, Data Security, And Governance In Federated Environments. Additionally, It Investigates Emerging Technologies And Protocols Facilitating Secure And Standardized Communication Among Diverse Cloud Platforms. By Addressing These Issues, The Paper Contributes To The Understanding Of Federated Cloud Architectures And Their Potential To Provide A More Flexible And Resilient Cloud Ecosystem.

Keywords:

Federated Clouds, Cloud Computing, Interoperability, Resource Sharing, Cloud Providers, Data Security, Governance, Scalability, Cloud Architecture, Emerging Technologies, Standardized

38. Title -Fault Tolerance And Reliability In Cloud Systems: Strategies And Techniques

I Mrs.D Indradevi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Kiruthika R Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates Strategies And Techniques For Achieving Fault Tolerance And Reliability In Cloud Systems. As Cloud Computing Becomes Integral To Various Applications, Ensuring Uninterrupted Service Availability And Data Integrity Is Paramount. The Study Explores Challenges Related To Hardware Failures, Network Issues, And Software Errors, Proposing Mechanisms Such As Redundancy, Load Balancing, And Automated Recovery Processes To Enhance Fault Tolerance. Additionally, It Delves Into The Integration Of Machine Learning And Predictive Analytics To Proactively Identify And Mitigate Potential Failures. Through An Examination Of Real-World Implementations, The Paper Contributes Insights Into Building Resilient And Reliable Cloud Infrastructures.

Keywords:

Fault Tolerance, Reliability, Cloud Systems, Cloud Computing, Redundancy, Load Balancing, Automated Recovery, Hardware Failures, Network Issues, Software Errors, Machine Learning, Predictive Analytics, Resilient Cloud Infrastructures.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

39. Title -Blockchain For Cloud Security And Transparency: A Distributed Approach

1 Mrs.D.Indra Devi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 Meenakshi S Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates Strategies And Techniques For Achieving Fault Tolerance And Reliability In Cloud Systems. As Cloud Computing Becomes Integral To Various Applications, Ensuring Uninterrupted Service Availability And Data Integrity Is Paramount. The Study Explores Challenges Related To Hardware Failures, Network Issues, And Software Errors, Proposing Mechanisms Such As Redundancy, Load Balancing, And Automated Recovery Processes To Enhance Fault Tolerance. Additionally, It Delves Into The Integration Of Machine Learning And Predictive Analytics To Proactively Identify And Mitigate Potential Failures. Through An Examination Of Real-World Implementations, The Paper Contributes Insights Into Building Resilient And Reliable Cloud Infrastructures.

Keywords:

Blockchain, Cloud Security, Transparency, Distributed Ledger, Decentralization, Data Integrity, Access Control, Auditing, Cloud Computing, Security Framework, Trust, Tamper-Resistance.

40. Title -Edge Computing Integration With Cloud Services: Architectures And Performance Evaluation

1 Mrs.D.Indra Devi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Naveen K Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates The Integration Of Edge Computing With Cloud Services, Exploring Architectures And Conducting A Performance Evaluation. The Emergence Of Edge Computing Complements Cloud Services By Bringing Computation Closer To The Data Source, Reducing Latency And Enhancing Overall System Efficiency. The Study Examines Various Integration Architectures, Addressing Challenges Related To Data Synchronization, Workload Distribution, And Resource Optimization. Through Empirical Performance Evaluations, The Paper Assesses The Benefits And Trade-Offs Of Integrating Edge Computing With Cloud Services, Providing Valuable Insights For Optimizing The Design And Deployment Of Distributed Computing Infrastructures.

Keywords: Edge Computing, Cloud Services, Integration Architectures, Performance Evaluation, Distributed Computing, Latency Reduction, Workload Distribution, Resource Optimization, Data Synchronization, System Efficiency.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

41. Title -Cost Optimization In Cloud Computing: Strategies For Efficient Resource Utilization

1 Mrs.D.Indra Devi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Naveenkumar S UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Focuses On Cost Optimization In Cloud Computing, Exploring Strategies For Efficient Resource Utilization. As Organizations Increasingly Rely On Cloud Services, Managing Costs Becomes A Crucial Aspect Of Cloud Adoption. The Study Investigates Techniques Such As Auto-Scaling, Reserved Instances, And Workload Analysis To Optimize Resource Allocation And Minimize Expenses. It Also Explores The Impact Of Architecture Choices, Like Serverless Computing, On Cost Efficiency. Through Practical Insights And Case Studies, The Paper Provides A Comprehensive Understanding Of Cost Optimization Strategies, Assisting Organizations In Making Informed Decisions To Achieve Economic Efficiency In Cloud Environments.

Keywords:

Cost Optimization, Cloud Computing, Resource Utilization, Auto-Scaling, Reserved Instances, Workload Analysis, Serverless Computing, Economic Efficiency, Cloud Adoption, Cost Management, Cloud.

42. Title – Data Governance In Cloud Environments: Compliance, Auditing, And Accountability

1 Mrs.D.Indra Devi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Narosan Kiosus N UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Examines The Critical Aspects Of Data Governance In Cloud Environments, With A Focus On Compliance, Auditing, And Accountability. As Organizations Migrate Their Data To The Cloud, Ensuring Proper Governance Becomes Paramount For Regulatory Adherence And Maintaining Trust. The Study Delves Into The Challenges Of Data Governance In The Cloud, Addressing Issues Such As Data Security, Privacy, And Compliance With Industry Regulations. It Explores Auditing Mechanisms, Encryption Practices, And Accountability Frameworks To Establish And Maintain Robust Data Governance. By Providing Insights And Best Practices, This Research Contributes To The Development Of Effective Strategies For Securing And Managing Data In Cloud Environments.

Keywords:

Data Governance, Cloud Environments, Compliance, Auditing, Accountability, Data Security, Privacy, Regulatory Adherence, Encryption, Cloud Services, Data Management, Industry Regulations.

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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

43. Title – Efficient Resource Allocation And Scheduling Algorithms In Cloud Environments

1 Mr.S.Vimalakrishnan Associate Professor /Indra Ganesan College Of Engineering, Manikandan, Trichy 12.
2 Pavithra G UG Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy.

Abstract:

This Paper Investigates Efficient Resource Allocation And Scheduling Algorithms In Cloud Environments, Addressing The Challenges Associated With Optimizing The Utilization Of Computational Resources. As The Demand For Cloud Services Continues To Grow, Effective Management Of Resources Becomes Crucial For Meeting Performance Requirements And Minimizing Costs. The Study Explores Various Algorithms, Including Dynamic Provisioning, Load Balancing, And Task Scheduling, To Enhance Resource Efficiency. Through Empirical Evaluations And Comparisons, The Paper Assesses The Strengths And Limitations Of These Algorithms, Providing Valuable Insights For Designing Resilient And High-Performance Cloud Infrastructures.

Keywords:

Resource Allocation, Scheduling Algorithms, Cloud Environments, Cloud Computing, Dynamic Provisioning, Load Balancing, Task Scheduling, Resource Efficiency, Performance Optimization, Cost Minimization, Cloud Infrastructures.

44. Title – Security And Privacy In Cloud Computing: Threats, Solutions, And Future Directions

1 Mr.S.Vimalakrishnan Associate Professor /Indra Ganesan College Of Engineering,
2 Pavithra K UG Student/Cse Indra Ganesan College Of Engineering, Manikandan.

Abstract:

This Paper Comprehensively Examines The Landscape Of Security And Privacy In Cloud Computing, Addressing Emerging Threats, Proposing Effective Solutions, And Outlining Future Directions. Cloud Computing, While Offering Scalability And Flexibility, Introduces Unique Challenges Related To Data Protection, Confidentiality, And Trust. The Study Explores A Range Of Security Threats, Including Data Breaches, Insider Attacks, And Regulatory Compliance Issues, And Analyzes Countermeasures Such As Encryption, Access Controls, And Compliance Frameworks. Additionally, The Paper Discusses Emerging Technologies Like Homomorphic Encryption And Blockchain For Advanced Security. By Providing A Roadmap For Future Research Directions, This Work Contributes To The Ongoing Enhancement Of Security And Privacy In Cloud Computing Environments.

Keywords:

Cloud Computing, Security, Privacy, Threats, Solutions, Data Protection, Confidentiality, Compliance, Encryption, Access Controls, Homomorphic Encryption, Blockchain, Future Directions.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

45. Title –Multi-Cloud Management And Orchestration: A Comprehensive Study

1 Mr.S.Vimaladithan Associate Professor /Indra Ganesan College Of Engineering,

Racika R Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy.

2 Abstract:

This Paper Presents A Comprehensive Study On Multi-Cloud Management And Orchestration, Addressing The Complexities And Opportunities Associated With Utilizing Multiple-Cloud Providers. As Organizations Increasingly Adopt A Multi-Cloud Strategy To Leverage Diverse Services, Efficient Management And Orchestration Become Imperative For Optimizing Performance And Resource Utilization. The Study Explores Key Aspects, Including Interoperability, Workload Migration, And Policy Enforcement, While Assessing Various Management And Orchestration Tools And Frameworks. Through Case Studies And A Comparative Analysis, The Paper Provides Insights Into The Challenges And Best Practices For Effectively Managing And Orchestrating Resources Across Multiple Cloud Environments.

Keywords:

Multi-Cloud Management, Orchestration, Cloud Computing, Interoperability, Workload Migration, Policy Enforcement, Resource Utilization, Cloud Services, Comparative Analysis, Multi-Cloud Strategy, Cloud Providers.

46. Title – Energy-Efficient Data Centers: Green Computing In Cloud Infrastructure

1 Mr.S.Vimaladithan Associate Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Rahul S Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates The Integration Of Green Computing Principles In Cloud Infrastructure, Focusing On The Development Of Energy-Efficient Data Centers. As The Demand For Cloud Services Continues To Rise, Energy Consumption Becomes A Critical Concern, Necessitating Environmentally Sustainable Solutions. The Study Explores Strategies Such As Renewable Energy Adoption, Efficient Cooling Systems, And Workload Optimization To Minimize The Carbon Footprint Of Data Centers. Through An Analysis Of Real-World Implementations And Energy Efficiency Metrics, The Paper Provides Insights Into The Design And Operation Of Eco-Friendly Cloud Infrastructures, Contributing To The Broader Goals Of Sustainability In The It Industry.

Keywords:

Energy-Efficient Data Centers, Green Computing, Cloud Infrastructure, Renewable Energy, Cooling Systems, Workload Optimization, Sustainability, Carbon Footprint, Cloud Services, Eco-Friendly Solutions.

47. Title – Blockchain For Network Security: Decentralized Approaches To Secure Data Transactions"

1 Mr.C.Jegadeesan Associate Professor /Indra Ganesan College Of Engineering, 2 Saranya A Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Delves Into The Application Of Blockchain Technology For Enhancing Network Security Through Decentralized Approaches In Securing Data Transactions. With The Increasing Sophistication Of Cyber Threats, Traditional Network Security Measures Face Challenges In Ensuring The Integrity And Confidentiality Of Data Transactions. The Study Explores How Blockchain's Decentralized Ledger, Cryptographic Techniques, And Consensus Mechanisms Contribute To Robust Security Models. Emphasizing Transparency, Immutability, And Resistance To Tampering, The Paper Investigates The Role Of Blockchain In Securing Data Transactions Within Networks. Through Case Studies And Analyses, It Provides Insights Into Leveraging Blockchain For A More Resilient And Secure Network Environment.

Keywords:

Blockchain, Network Security, Decentralized Approaches, Data Transactions, Cryptographic Techniques, Consensus Mechanisms, Transparency, Immutability, Cyber Threats, Security Models, Resilient Networks.

48. Title –Zero Trust Networking: A Paradigm Shift In Network Security Architecture

1 Mr.C.Jegadeesan Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 11.2 Saranya M Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Paradigm Shift Brought About By Zero Trust Networking In The Architecture Of Network Security. Traditionally, Network Security Relied On Perimeter Defenses, Assuming Trust Within The Network. However, With Evolving Cyber Threats, Zero Trust Challenges This Assumption By Advocating Continuous Verification And Stringent Access Controls Regardless Of The User's Location Or Network. The Study Investigates The Key Principles Of Zero Trust, Including Micro-Segmentation, Least Privilege Access, And Continuous Monitoring. By Analyzing The Transformative Impact Of Zero Trust Networking, This Research Contributes To The Understanding Of A Security Model That Prioritizes Resilience And Adaptability In The Face Of Dynamic Cybersecurity Challenges.

Keywords:

Zero Trust Networking, Network Security, Cybersecurity, Micro-Segmentation, Least Privilege Access, Continuous Monitoring, Security Architecture, Cyber Threats, Paradigm Shift, Resilience.



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

49. Title –Distributed Denial Of Service (Ddos) Attacks: Detection And Prevention Techniques

1 Mr.C.Jegadeesan Associate Professor /Indra Ganesan College Of Engineering, 2 Saravanan M Ug

Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Addresses The Critical Issue Of Distributed Denial Of Service (Ddos) Attacks, Focusing On Detection And Prevention Techniques To Mitigate Their Impact. Ddos Attacks Pose A Significant Threat To The Availability And Performance Of Online Services By Overwhelming Target Systems With Malicious Traffic. The Study Explores Various Detection Methods, Including Anomaly-Based And Signature-Based Approaches, As Well As Machine Learning Algorithms For Timely Identification Of Ddos Patterns. Additionally, The Paper Examines Prevention Techniques Such As Traffic Filtering, Rate Limiting, (Cdns) To Enhance Resilience Against Ddos Attacks. Through An Evaluation Of These Techniques, The Research Contributes To The Development Of Robust And Adaptive Ddos Defense Mechanisms.

Keywords:

Distributed Denial Of Service (Ddos) Attacks, Detection Techniques, Prevention Methods, Anomaly- Based Detection, Signature-Based Detection, Machine Learning, Traffic Filtering.

50. Title – Securing Internet Of Things (Iot) Devices: Challenges And Solutions

1 Mr.C.Jegadeesan Associate Professor /Indra Ganesan College Of Engineering, Manikandan, Trichy 12.2

Saranya M. Ug Student/Cse Indra Ganesan College Of Engineering.

Abstract:

This Paper Examines The Challenges And Solutions Associated With Securing Internet Of Things (Iot) Devices. As The Number Of Interconnected Devices Continues To Grow, The Security Of Iot Ecosystems Becomes A Critical Concern. The Study Explores The Unique Challenges Facing Iot Security, Including Device Vulnerabilities, Data Privacy Issues, And The Potential For Large-Scale Attacks. It Delves Into Solutions Such As Robust Authentication Mechanisms, Encryption Protocols, And Secure Firmware Updates To Address These Challenges. Through A Comprehensive Analysis, The Paper Contributes Insights Into Enhancing The Security Posture Of Iot Devices And Ecosystems In The Face Of Evolving Cybersecurity Threats.

Keywords:

Internet Of Things (Iot), Iot Security, Device Security, Data Privacy, Authentication Mechanisms, Encryption Protocols, Firmware Updates, Cybersecurity, Iot Ecosystems, Security Challenges, Solutions.



PRINCIPAL

Indra Ganesan College of Engineering
15 Vellay, Madurai Main Road
Manikandan, Trichy-620 012

51. Title –Privacy-Preserving Data Sharing In Collaborative Networks: Cryptographic Solutions

I Mr.C.Jegadeesan Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Soundharya / UG Student/Cse Indra Ganesan College Of Engineering

Abstract:

This Paper Investigates Cryptographic Solutions For Privacy-Preserving Data Sharing In Collaborative Networks. In Collaborative Environments, Multiple Entities Need To Share Sensitive Information While Preserving Individual Privacy. The Study Explores Cryptographic Techniques Such As Homomorphic Encryption, Secure Multi-Party Computation, And Zero-Knowledge Proofs To Enable Secure And Private Data Sharing. It Analyzes The Strengths And Limitations Of These Approaches In The Context Of Collaborative Networks. By Addressing Privacy Concerns And Ensuring Confidentiality, The Paper Contributes To The Development Of Cryptographic Protocols That Facilitate Effective And Secure Collaboration While Safeguarding Sensitive Information.

Keywords:

Privacy-Preserving Data Sharing, Collaborative Networks, Cryptographic Solutions, Homomorphic Encryption, Secure Multi-Party Computation, Zero-Knowledge Proofs, Confidentiality, Privacy Protection, Cryptographic Protocols.

52. Title –Quantum Computing In The Cloud: Algorithms And Infrastructure”

I Mr.P.Suresh Pandi Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Tamilselvam M UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Integration Of Quantum Computing In The Cloud, Focusing On Quantum Algorithms And The Required Infrastructure. With The Promise Of Exponentially Faster Computations, Quantum Computing Introduces Transformative Potential For Various Applications. The Study Investigates Quantum Algorithms Such As Shor's Algorithm And Grover's Algorithm, Which Have Implications For Cryptography And Optimization Problems. Additionally, It Explores The Infrastructure Challenges And Advancements Needed To Support Quantum Computing In Cloud Environments, Including Quantum Processors, Quantum Communication, And Error Correction Techniques. By Analyzing These Aspects, The Paper Contributes Insights Into The Evolving Landscape Of Quantum Computing In The Cloud.

Keywords:

Quantum Computing, Cloud Computing, Quantum Algorithms, Shor's Algorithm, Grover's Algorithm, Quantum Infrastructure, Quantum Processors, Quantum Communication, Error Correction, Exponential Speedup, Cloud Services.





PRINCIPAL

Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

53. Title –Edge Computing In The Cloud Era: Bridging The Gap Between Local And Remote Processing

| Mr.P.Suresh Pandi Associate Professor /Indra Ganesan College Of Engineering, Manikandan,Trichy 12.2
Tharik A Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Explores The Role Of Edge Computing In The Cloud Era, Emphasizing Its Significance In Bridging The Gap Between Local And Remote Processing. As The Demand For Low-Latency Applications And Real-Time Data Processing Grows, Edge Computing Offers A Decentralized Approach To Bring Computation Closer To The Data Source. The Study Investigates The Key Principles Of Edge Computing, Including Proximity, Reduced Latency, And Bandwidth Optimization. Additionally, It Explores The Integration Challenges And Collaborative Opportunities Between Edge And Cloud Computing. By Analyzing Use Cases And Emerging Trends, The Paper Contributes Insights Into How Edge Computing Complements Cloud Services, Creating A More Responsive And Efficient Computing Paradigm.

Keywords:

Edge Computing, Cloud Computing, Decentralized Processing, Low-Latency Applications, Real-Time Data Processing, Proximity, Bandwidth Optimization, Edge-Cloud Collaboration, Computing Paradigm, Emerging Trends.

54. Title –Cloud-Native Application Development: Best Practices And Case Studies

| Mr.P.Suresh Pandi Associate Professor /Indra Ganesan College Of Engineering, Manikandan,Trichy 12.2

Varsha S Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Explores Best Practices And Case Studies In Cloud-Native Application Development. Cloud-Native Development Has Emerged As A Paradigm Shift, Emphasizing Scalable, Flexible, And Resilient Applications Designed For Cloud Environments. The Study Delves Into Key Practices Such As Containerization, Microservices Architecture, Continuous Integration/Continuous Deployment (CI/CD), And Serverless Computing. It Also Presents Case Studies Illustrating Successful Implementations Of Cloud-Native Approaches, Highlighting The Benefits And Challenges. Insights, The Paper Contributes To A Deeper Understanding Of The Principles And Strategies That Drive Effective Cloud-Native Application Development.

Keywords:

Cloud-Native Application Development, Best Practices, Case Studies, Containerization, Microservices Architecture, Continuous Integration, Continuous Deployment, Serverless Computing, Cloud Environments, Scalability, Flexibility, Resilience.



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

55. Title –Blockchain For Cloud Security: Decentralized Trust In Distributed Systems

1 Mr.P.Suresh Pandi Associate Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Vigneshwarachari S UG Student/Cae Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Integration Of Blockchain Technology To Enhance Cloud Security By Establishing Decentralized Trust In Distributed Systems. By Leveraging The Inherent Characteristics Of Blockchain, Such As Immutability, Transparency, And Consensus Mechanisms, This Approach Aims To Address Key Security Challenges In Cloud Computing. The Paper Discusses The Potential Benefits Of Combining Blockchain And Cloud Technology, Offering A Decentralized And Tamper-Resistant Framework For Securing Sensitive Data And Transactions. Through The Establishment Of A Trustless Environment, The Proposed Solution Mitigates Traditional Security Concerns, Providing A Robust Foundation For Cloud-Based Applications.

Keywords:

Blockchain, Cloud Security, Decentralized Trust, Distributed Systems, Immutability, Transparency, Consensus Mechanisms, Tamper-Resistance, Data Security, Trustless Environment.

56. Title –Machine Learning In Cloud Computing: Scalability, Performance,And Applications

1 Mr.P.Suresh Pandi Associate Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.2

Vijayalakshmi M UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Examines The Integration Of Machine Learning (ML) Techniques Within Cloud Computing Environments, Focusing On Scalability, Performance Optimization, And Diverse Applications. The Synergy Of ML And Cloud Computing Presents Opportunities For Addressing Challenges Related To Resource Management, Data Processing, And Algorithmic Efficiency. The Paper Delves Into Strategies For Scaling ML Workflows In Cloud Environments, Optimizing Performance Through Parallelization And Distributed Computing, And Explores Various Applications Across Domains Such As Healthcare, Finance, And Smart Systems. By Leveraging The Elastic Nature Of Cloud Infrastructure, This Integration Enhances The Accessibility And Efficiency Of ML Applications, Paving The Way For Advancements In Predictive Analytics, Pattern Recognition, And Decision Support Systems.

Keywords:

Machine Learning, Cloud Computing, Scalability, Performance Optimization, Distributed Computing, Resource Management, Cloud-Based Applications, Predictive Analytics, Pattern.



PRINCIPAL

Indra Ganesan College of Engineering
1B Valley, Medarai Min Block
Manikandam, Trichy-620 012

57. Title – Mobile Sink-Based Data Collection In Wireless Sensor Networks: Optimization And Challenges"

1 Mrs.A.Ramya Associate Professor /Indra Ganesan College Of Engineering,
Manikandam,Trichy 12.2 Vijayalakshmi P Ugstudent/Cse Indra Ganesan College Of Engineering, Manikandam,
Trichy 12.

Abstract:

This Paper Investigates The Concept Of Mobile Sink-Based Data Collection In Wireless Sensor Networks (Wsn) With A Focus On Optimization Strategies And Associated Challenges. The Utilization Of Mobile Sinks Introduces Dynamic And Efficient Data Gathering Mechanisms, Enhancing Network Lifespan, Energy Efficiency, And Overall Performance. The Paper Explores Optimization Techniques Such As Path Planning, Scheduling, And Energy-Aware Algorithms Tailored For Mobile Sink Scenarios. Additionally, It Addresses Challenges Inherent In This Approach, Including Communication Overhead, Mobility Management, And Security Considerations. The Study Contributes Insights Into The Design And Implementation Of Mobile Sink-Based Data Collection Systems, Aiming To Improve The Efficiency And Reliability Of Wsn For Diverse Applications.

Keywords:

Mobile Sink, Data Collection, Wireless Sensor Networks, Optimization, Path Planning, Scheduling, Energy Efficiency, Mobility Management, Security, Network Lifespan, Sensor Networks.

58. Title – Localization Techniques In Wireless Sensor Networks: A Comparative Study

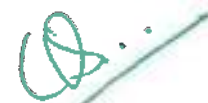
1 Mrs.A.Ramya Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2 Vinita M
Ug Student/Cse Indra Ganesan College Of Engineering,
Manikandam, Trichy 12.

Abstract:

This Paper Presents A Comprehensive Comparative Study Of Localization Techniques Employed In Wireless Sensor Networks (Wsn). Accurate Node Localization Is Crucial For Various Wsn Applications, Such As Target Tracking, Environmental Monitoring, And Location-Aware Services. The Paper Reviews And Compares Diverse Localization Methods, Including Range-Based And Range-Free Approaches, Time-Of-Flight, Received Signal Strength, And Anchor-Based Techniques. Performance Metrics Such As Accuracy, Energy Consumption, And Scalability Are Analyzed To Provide Insights Into The Strengths And Limitations Of Each Method. The Study Aims To Assist Researchers And Practitioners In Selecting Appropriate Localization Techniques Based On Specific Application Requirements And Environmental Conditions Within Wsn.

Keywords:

Wireless Sensor Networks, Localization Techniques, Comparative Study, Range-Based, Range-Free, Time-Of-Flight, Received Signal Strength, Anchor-Based, Accuracy, Energy Consumption



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

59. Title –Bio-Inspired Algorithms For Optimization In Energy-Harvesting Wireless Sensor Networks

1 Mrs.A.Ramya Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 122

Vinitha Devi P Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12

Abstract:

This Paper Explores The Application Of Bio-Inspired Algorithms For Optimization In Energy-Harvesting Wireless Sensor Networks (Eh-Wans). With The Increasing Demand For Sustainable And Self-Sufficient Sensor Networks, Energy Harvesting Technologies Play A Pivotal Role In Prolonging Network Lifetime. The Paper Reviews Bio-Inspired Optimization Algorithms, Inspired By Natural Phenomena Such As Swarm Intelligence, Genetic Algorithms, And Simulated Annealing, Applied To Address Challenges In Eh-Wans. Emphasizing Energy-Efficient Routing, Data Aggregation, And Scheduling, The Study Investigates How These Algorithms Enhance The Overall Performance Of Sensor Networks In Scenarios Where Energy Availability Fluctuates. The Findings Contribute To The Development Of Robust, Adaptive, And Energy-Aware Eh-Wans For Various Applications.

Keywords:

Bio-Inspired Algorithms, Optimization, Energy-Harvesting, Wireless Sensor Networks, Swarm Intelligence, Genetic Algorithms, Simulated Annealing, Energy-Efficient Routing, Data Aggregation, Scheduling.

60. Title –Meta-Learning In Neural Networks: Improving Adaptability And Generalization

1Mrs.A.Ramya Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12
3 Yogeshwaran S Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Delves Into The Concept Of Meta-Learning Within Neural Networks, Aiming To Enhance Adaptability And Generalization Capabilities. Meta-Learning, Or Learning To Learn, Involves Training Models To Acquire A Higher-Level Understanding Of Various Tasks, Thereby Improving Their Ability To Adapt To New And Unseen Scenarios. The Paper Reviews Key Meta-Learning Strategies Such As Model-Agnostic Meta-Learning (Maml), Reptile, And Gradient-Based Meta-Learning Approaches. Emphasis Is Placed On How Meta-Learning Techniques Contribute To Faster Adaptation, Improved Generalization, And Enhanced Performance Across Diverse Tasks. The Study Provides Insights Into The Potential Applications And Challenges Associated With Incorporating Meta-Learning Principles Into Neural Network Architectures.

Keywords:

Meta-Learning, Neural Networks, Adaptability, Generalization, Model-Agnostic Meta-Learning (Maml), Reptile, Gradient-Based Meta-Learning, Learning To Learn, Neural Network Adaptation.

PRINCIPAL

Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 011

61. Title –Capsule Networks: Advancements And Applications In Image Recognition

I Mrs.A.Ranya Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2
Yuvasri T Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Reviews The Advancements And Applications Of Capsule Networks In The Domain Of Image Recognition. Capsule Networks, Inspired By Human Visual Processing, Aim To Overcome Limitations Associated With Traditional Convolutional Neural Networks (Cnns) In Capturing Hierarchical Relationships Within Images. The Paper Provides An Overview Of Capsule Network Architecture, Highlighting Key Components Such As Capsules And Dynamic Routing Mechanisms. It Explores Recent Advancements In Capsule Networks, Including Improvements In Robustness, Interpretability, And Generalization. Furthermore, The Study Delves Into Applications Of Capsule Networks In Image Recognition Tasks, Discussing Their Efficacy In Handling Pose Variations, Occlusions, And Complex Spatial Relationships. The Findings Contribute To A Better Understanding Of The Potential And Challenges Associated With Integrating Capsule Networks Into Image Recognition Systems.

Keywords:

Capsule Networks, Image Recognition, Convolutional Neural Networks (Cnns), Advancements, Applications, Capsules, Dynamic Routing, Robustness, Interpretability, Generalization, Pose Variation, Occlusion.

62. Title –Advanced Persistent Threats: Detection And Mitigation Strategies In Network Security

I Ms.J.Jenifer Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2
Aarthi J Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores Advanced Persistent Threats (Apts) And Addresses Detection And Mitigation Strategies Within The Realm Of Network Security. Apts Represent Sophisticated And Prolonged Cyber-Attacks Often Orchestrated By Well-Funded Adversaries Seeking Unauthorized Access To Sensitive Information. The Paper Reviews The Characteristics Of Apts, Emphasizing Their Stealthy Nature And Persistent Tactics. It Investigates Various Detection Methods, Including Anomaly Detection, Signature-Based Approaches, And Behavioral Analysis. Additionally, The Study Delves Into Mitigation Strategies, Such As Network Segmentation, Encryption, And Incident Response Planning, Aimed At Minimizing The Impact Of Apts. By Comprehensively Analyzing These Strategies, The Paper Contributes To The Development Of Robust Defense Mechanisms Against Persistent And Evolving Cyber Threats.

Keywords:

Advanced Persistent Threats (Apts), Network Security, Cybersecurity, Detection Strategies, Mitigation Strategies, Anomaly Detection, Signature-Based Approaches, Behavioral Analysis, Network Segmentation, Encryption, Incident Response.

63. Title –Machine Learning For Intrusion Detection Systems: A Comparative Analysis

1 Ms.J.Jenifer Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

Deepika N UG Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Conducts A Comparative Analysis Of Machine Learning Techniques Employed In Intrusion Detection Systems (Ids) To Enhance Cybersecurity. As Cyber Threats Become More Sophisticated, The Role Of Ids Becomes Critical In Identifying And Mitigating Potential Security Breaches. The Study Reviews Various Machine Learning Algorithms, Including Anomaly-Based And Signature-Based Approaches, And Evaluates Their Effectiveness In Detecting Diverse Cyber Threats. Performance Metrics Such As Accuracy, False Positives, And False Negatives Are Considered In The Comparative Analysis To Provide Insights Into The Strengths And Limitations Of Each Approach. The Findings Aim To Guide The Selection And Optimization Of Machine Learning Models For Robust And Adaptive Intrusion Detection Systems.

Keywords:

Machine Learning, Intrusion Detection Systems, Cybersecurity, Comparative Analysis, Anomaly Detection, Signature-Based Approaches, Cyber Threats, Accuracy, False Positives, False Negatives.

64. Title –Quantum Key Distribution For Secure Communication In Network Environments

1 Ms.J.Jenifer Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 Dhavalakshmi R UG Student/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy

Abstract:

This Paper Investigates The Application Of Quantum Key Distribution (Qkd) As A Method For Achieving Secure Communication In Network Environments. With The Increasing Threat Of Quantum Computing To Traditional Cryptographic Systems, Qkd Offers A Quantum-Safe Solution By Utilizing The Principles Of Quantum Mechanics For Secure Key Exchange. The Study Provides An Overview Of Qkd Principles, Including Quantum Entanglement And Photon Polarization, And Explores Its Implementation For Secure Key Distribution In Network Settings. The Paper Also Discusses Challenges Associated With Practical Deployment, Such As Distance Limitations And Technological Constraints. The Findings Contribute To Understanding The Potential Role Of Qkd In Bolstering The Security Of Communication Networks In The Era Of Quantum Computing.

Keywords:

Quantum Key Distribution (Qkd), Secure Communication, Quantum Computing, Quantum Entanglement, Photon Polarization, Network Security, Key Exchange, Quantum-Safe Cryptography.

65. Title –Security Challenges In 5g Networks: Threats And Countermeasures

1 Ms.J.Jenifer Associate Professor Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 Goadhar Pathima \$ Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy

Abstract:

This Paper Examines The Security Challenges Inherent In 5g Networks And Explores Effective Countermeasures To Mitigate Emerging Threats. As 5g Technology Evolves, Providing Faster Data Rates And Enabling Diverse Applications, It Introduces A Unique Set Of Security Vulnerabilities. The Study Identifies Potential Threats, Including But Not Limited To, Network Slicing Vulnerabilities, Increased Attack Surfaces, And Potential Privacy Concerns. Additionally, The Paper Discusses Countermeasures Such As Encryption, Network Function Virtualization Security, And Anomaly Detection Systems. By Comprehensively Addressing The Security Landscape Of 5g Networks, This Research Contributes To The Development Of Robust Strategies For Safeguarding The Integrity, Confidentiality, And Availability Of 5g Communication Systems.

Keywords:

5g Networks, Security Challenges, Threats, Countermeasures, Network Slicing, Encryption, Network Function Virtualization Security, Anomaly Detection, Privacy Concerns.

66. Title –Biometric Authentication In Network Security: Enhancing Access Control Mechanisms

1 Ms.J.Jenifer Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 Gowtham Raj K. Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy

Abstract:

This Paper Explores The Integration Of Biometric Authentication Into Network Security Protocols, Aiming To Enhance Access Control Mechanisms. Biometric Authentication Leverages Unique Physiological Or Behavioral Traits Of Individuals, Such As Fingerprints, Facial Features, Or Voice Patterns, To Verify Their Identity. The Study Reviews The Advantages And Challenges Associated With Biometric Authentication In The Context Of Network Security. It Discusses How Biometrics Can Strengthen Access Control, Prevent Unauthorized Access, And Mitigate The Risks Associated With Traditional Authentication Methods Like Passwords. The Paper Also Addresses Privacy Concerns, Template Protection, And The Integration Of Biometrics Into Multi-Factor Authentication Systems. The Findings Contribute To A Comprehensive Understanding Of The Role Of Biometric Authentication In Bolstering Network Security.

Keywords:

Biometric Authentication, Network Security, Access Control, Identity Verification, Multi-Factor Authentication, Privacy Concerns, Template Protection, Behavioral Traits, Physiological Traits.



PRINCIPAL

Indra Ganesan College of Engineering

16 Valley, Madurai Main Road

Manikandam, Trichy-620 012

67. Title –Intelligent Data Fusion In Heterogeneous Wireless Sensor Networks

1 Ms.A.Getsyal Associate Professor /Indra Ganesan College Of Engineering,
Manikandam, Trichy 12.

2 Jeya Praba A Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy
12.

Abstract:

This Paper Investigates The Implementation Of Intelligent Data Fusion Techniques In Heterogeneous Wireless Sensor Networks (Wsn) To Enhance Data Accuracy, Reliability, And Efficiency. Heterogeneous Wsn Comprise Sensors With Diverse Capabilities, Leading To Varied Data Sources And Formats. The Study Reviews Intelligent Data Fusion Methods, Including Decision-Level Fusion, Feature-Level Fusion, And Sensor-Level Fusion, And Explores Their Applications In Heterogeneous Wsn. Emphasis Is Placed On Leveraging Machine Learning Algorithms For Adaptive Data Fusion, Enabling The Network To Dynamically Adapt To Changing Environmental Conditions. The Research Aims To Improve The Overall Performance And Reliability Of Heterogeneous Wsn By Intelligently Fusing Data From Disparate Sources.

Keywords:

Intelligent Data Fusion, Heterogeneous Wireless Sensor Networks, Decision-Level Fusion, Feature-Level Fusion, Sensor-Level Fusion, Machine Learning Algorithms, Adaptive Data Fusion, Data Accuracy, Reliability, Efficiency.

68. Title –Secure Data Aggregation In Wireless Sensor Networks:Cryptographic Approaches

1 Ms.A.Getsyal Associate Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2. Jekson S Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates Cryptographic Approaches For Achieving Secure Data Aggregation In Wireless Sensor Networks (Wsn). Data Aggregation In Wsn Is Essential For Reducing Communication Overhead And Conserving Energy, But It Introduces Security Challenges Due To The Vulnerability Of Aggregated Information. The Study Reviews Cryptographic Techniques Such As Homomorphic Encryption, Secure Multi-Party Computation, And Zero-Knowledge Proofs Applied To Secure Data Aggregation. Emphasis Is Placed On Preserving The Confidentiality And Integrity Of Aggregated Data While Minimizing The Risk Of Information Leakage. The Research Aims To Provide Insights Into The Implementation Of Cryptographic Protocols To Ensure Secure And Privacy-Preserving Data Aggregation In Wsn.

Keywords:

Secure Data Aggregation, Wireless Sensor Networks, Cryptographic Approaches, Homomorphic Encryption, Secure Multi-Party Computation, Zero-Knowledge Proofs, Confidentiality, Integrity, Privacy-Preserving.

PRINCIPAL

Indra Ganesan College of Engineering
16 Vally, Madurai Main Road
Manikandam, Trichy-620 042

69. Title –Neural Architecture Search: Automated Design Of Deep Learning Models

1 Ms.A.Getsyal Associate Professor /Indra Ganesan College Of Engineering,
Manikandam, Trichy 12.

2 Kamatchi V Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy
12.

Abstract:

This Paper Delves Into The Concept Of Neural Architecture Search (Nas) As An Automated Approach For Designing Deep Learning Models. With The Increasing Complexity Of Neural Network Architectures And The Growing Demand For Specialized Models, Nas Has Emerged As A Promising Methodology To Efficiently Explore And Discover Optimal Neural Network Designs. The Study Reviews Various Nas Techniques, Including Reinforcement Learning-Based Methods, Evolutionary Algorithms, And Gradient-Based Optimization Approaches. Emphasis Is Placed On The Advantages, Challenges, And Recent Advancements In Nas, Showcasing Its Potential To Automate The Design Of Deep Learning Models Across Diverse Tasks. The Research Contributes To A Deeper Understanding Of Nas And Its Implications For Accelerating The Development Of Effective And Efficient Neural Network Architectures.

Keywords:

Neural Architecture Search (Nas), Deep Learning Models, Automated Design, Reinforcement Learning, Evolutionary Algorithms, Gradient-Based Optimization, Model Optimization, Hyperparameter Tuning.

70. Title –Recurrent Neural Networks For Time Series Prediction: Techniques And Challenges

1 Ms.A.Getsyal Associate Professor /Indra Ganesan College Of Engineering,
Manikandam, Trichy 12.

2 Kokila V Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Provides A Comprehensive Exploration Of Recurrent Neural Networks (Rnns) For Time Series Prediction, Focusing On Techniques Employed And Challenges Faced In This Domain. Rnns, Known For Their Ability To Capture Sequential Dependencies, Have Gained Prominence In Forecasting Tasks. The Study Reviews Various Rnn Architectures, Including Long Short-Term Memory (Lstm) And Gated Recurrent Unit (Gru), And Assesses Their Effectiveness In Modeling Temporal Patterns. Additionally, The Paper Addresses Challenges Such As Vanishing Gradients, Overfitting, And The Selection Of Suitable Hyperparameters In The Context Of Time Series Prediction. By Evaluating Techniques And Employed And Challenges Faced In This Domain, Rnns, Known For Their Ability To Capture Sequential Dependencies, Have Gained Prominence In By Evaluating Techniques And Proposing Potential Solutions, This Research Contributes To The Advancement Of Rnn-Based Approaches For Accurate And Reliable Time .

Keywords:

Recurrent Neural Networks (Rnns), Time Series Prediction, Long Short-Term Memory (Lstm), Gated Recurrent Unit (Gru), Vanishing Gradients, Overfitting, Hyperparameter Tuning.



PRINCIPAL

Indra Ganesan College of Engineering
IG Veloy, Madurai Main Road
Manikandam, Trichy-820 012

71. Title –Neuromorphic Hardware: Implementing Neural Networks In Efficient Hardware Architectures

1 Ms.A.Getsyal Associate Professor /Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

2 Lakshmi Priya M Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12

Abstract:

This Paper Explores The Realm Of Neuromorphic Hardware, Focusing On The Implementation Of Neural Networks In Efficient Hardware Architectures. Neuromorphic Computing, Inspired By The Human Brain's Architecture, Seeks To Emulate Cognitive Processes In Specialized Hardware. The Study Reviews Key Concepts Such As Spiking Neural Networks And Memristors, Which Play Pivotal Roles In Neuromorphic Hardware Design. It Delves Into The Advantages, Challenges, And Recent Advancements In Implementing Neural Networks Using Neuromorphic Hardware, Emphasizing Energy Efficiency And Parallel Processing Capabilities. The Paper Aims To Provide Insights Into The Potential Applications And Future Directions Of Neuromorphic Hardware In The Field Of Artificial Intelligence And Machine Learning.

Keywords:

Neuromorphic Hardware, Neural Networks, Spiking Neural Networks, Memristors, Efficient Hardware Architectures, Energy Efficiency, Parallel Processing, Artificial Intelligence, Machine Learning.

72. Title –Energy-Efficient Routing Protocols For Wireless Sensor Networks In Precision Agriculture

1 Ms.G Ahimsya Associate Professor /Indra Ganesan College Of Engineering, Manikandan, Trichy 12.2

Niveen R Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Investigates The Development And Application Of Energy-Efficient Routing Protocols In Wireless Sensor Networks (Wsn) Specifically Designed For Precision Agriculture. In Precision Agriculture, The Deployment Of Wsn Plays A Crucial Role In Monitoring And Optimizing Various Agricultural Processes.

The Study Reviews Existing Routing Protocols Tailored For Energy Conservation In Wsn And Evaluates Their Suitability For The Unique Requirements Of Precision Agriculture Scenarios. Emphasis Is Placed On Considerations Such As Data Accuracy, Latency, And Energy Consumption, Given The Resource Constraints Inherent In Sensor Nodes. The Findings Aim To Contribute To The Design And Implementation Of Routing Solutions That Enhance The Longevity And Efficiency Of Wireless Sensor Networks In Precision Agriculture Applications.

Keywords:

Energy-Efficient Routing Protocols, Wireless Sensor Networks, Precision Agriculture, Agricultural Monitoring, Data Accuracy, Latency, Energy Consumption.



PRINCIPAL

Indra Ganesan College of Engineering
10 Valley, Madurai Mahi Road
Manikandan, Trichy-620 012

73. Title –Security And Privacy In Wireless Sensor Networks: Threats And Countermeasures

1 Ms.G. Abinaya Associate Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Panner Selvam R Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Provides A Comprehensive Analysis Of Security And Privacy Issues In Wireless Sensor Networks (Wsns), Highlighting Potential Threats And Proposing Countermeasures. Wsns Play A Pivotal Role In Various Applications, From Environmental Monitoring To Healthcare, Making Their Security And Privacy Paramount. The Study Examines Common Threats Such As Node Compromise, Eavesdropping, And Denial-Of-Service Attacks, Considering Their Implications On Sensitive Data And Network Reliability. Additionally, The Paper Explores Countermeasures, Including Encryption, Secure Key Management, And Intrusion Detection Systems, Aiming To Safeguard Wsns Against Malicious Activities. By Addressing These Concerns, This Research Contributes To The Development Of Robust Security And Privacy Frameworks For Wireless Sensor Networks.

Keywords:

Security, Privacy, Wireless Sensor Networks, Threats, Countermeasures, Node Compromise, Eavesdropping, Denial-Of-Service Attacks, Encryption, Key Management, Intrusion Detection Systems.

74. Title –Localization Techniques In Underwater Wireless Sensor Networks: Challenges And Solutions

1 Ms.G. Abinaya Associate Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Princy Deepa X Ug Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Examines Localization Techniques In Underwater Wireless Sensor Networks (Uwsns), Focusing On The Challenges Specific To The Underwater Environment And Proposing Solutions To Address Them. Accurate Node Localization Is Essential For Various Applications In Uwsns, Such As Environmental Monitoring, Underwater Exploration, And Resource Management. The Study Reviews Existing Localization Methods, Considering Factors Like Signal Attenuation, Multipath Propagation, And Limited Communication Range In Underwater Conditions. Additionally, The Paper Discusses Solutions Such As Acoustic Ranging, Collaboration-Based Localization, And Hybrid Techniques To Improve Localization Accuracy And Robustness In Uwsns. The Findings Contribute To The Development Of Effective Localization Strategies Tailored For The Challenges Presented By The Underwater Environment.

Keywords:

Localization Techniques, Underwater Wireless Sensor Networks, Challenges, Solutions, Acoustic Ranging, Multipath Propagation, Communication Range, Node Localization.



PRINCIPAL

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Manikandam, Trichy-820 012

75. Title –Qos-Aware Data Aggregation In Wireless Sensor Networks For Environmental Monitoring

I Ms.G. Abinaya Associate Professor /Indra Ganesan College Of Engineering, Manikandan,Trichy 12.2
Raghul L Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Investigates Quality Of Service (Qos)-Aware Data Aggregation Techniques In Wireless Sensor Networks (Wsns) Designed For Environmental Monitoring. Qos-Aware Data Aggregation Is Crucial In Scenarios Where Monitoring Environmental Parameters With Precision Is Essential. The Study Reviews Existing Data Aggregation Methods, Considering Factors Such As Energy Efficiency, Latency, And Reliability, Which Directly Impact The Qos In Environmental Monitoring Applications. The Paper Explores Techniques Such As Adaptive Aggregation Schemes, Priority-Based Data Fusion, And Load Balancing To Optimize Qos Parameters. The Findings Aim To Contribute To The Development Of Effective Data Aggregation Strategies Tailored For The Unique Requirements Of Environmental Monitoring In Wireless Sensor Networks

Keywords:

Qos-Aware, Data Aggregation, Wireless Sensor Networks, Environmental Monitoring, Energy Efficiency, Latency, Reliability, Adaptive Aggregation, Priority-Based Data Fusion, Load Balancing.

76. Title –Fault Tolerance And Reliability In Wireless Sensor Networks: A Cross-Layer Approach

I Ms.G. Abinaya Associate Professor /Indra Ganesan College Of Engineering, Manikandan,Trichy 12.2
Sahana Ranu M Ug Student/Cse Indra Ganesan College Of Engineering, Manikandan, Trichy 12.

Abstract:

This Paper Proposes A Cross-Layer Approach For Enhancing Fault Tolerance And Reliability In Wireless Sensor Networks (Wsns). As Wsns Operate In Dynamic And Unpredictable Environments, Ensuring Robustness Against Node Failures And Communication Disruptions Is Critical For Their Successful Deployment. The Study Reviews Existing Fault Tolerance Mechanisms Across Different Layers Of The Protocol Stack, Including The Physical, Data Link, Network, And Application Layers. The Paper Explores The Integration Of Adaptive Routing, Redundancy, And Reconfiguration Strategies To Achieve A Comprehensive Cross-Layer Approach For Improved Fault Tolerance And Reliability. The Findings Aim To Provide Insights Into The Development Of Resilient Wsns Capable Of Maintaining Reliable Operations In Challenging Scenarios.

Keywords:

Fault Tolerance, Reliability, Wireless Sensor Networks, Cross-Layer Approach, Adaptive Routing, Redundancy, Reconfiguration, Protocol Stack.

PRINCIPAL
Indra Ganesan College of Engineering
NG Valley, Madurai District
Manikandan, Trichy-620 012

77. Title –Neuroevolutionary Approaches For Optimizing Neural Network Architectures

1 Dr.G.Balakrishnan Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Aswini. M Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores Neuroevolutionary Approaches As A Means Of Optimizing Neural Network Architectures. Neuroevolution Combines Principles From Neural Networks And Evolutionary Algorithms To Automatically Design And Improve Neural Network Structures. The Study Reviews Key Neuroevolutionary Techniques Such As Genetic Algorithms, Genetic Programming, And Neuroevolution Of Augmenting Topologies (Neat). Emphasis Is Placed On How These Approaches Can Be Employed For Tasks Such As Neural Architecture Search, Hyperparameter Tuning, And Feature Selection. The Paper Also Discusses Challenges And Opportunities Associated With Neuroevolutionary Optimization In Neural Network Design. The Findings Contribute To A Deeper Understanding Of The Capabilities And Potential Applications Of Neuroevolutionary Approaches In The Field Of Artificial Intelligence.

Keywords:

Neuroevolution, Neural Network Architectures, Genetic Algorithms, Genetic Programming, Near, Hyperparameter Tuning, Neural Architecture Search, Feature Selection, Optimization.

78. Title –Adversarial Attacks And Defenses In Deep Neural Networks: A Comprehensive Study

1 Dr.G.Balakrishnan Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Gwendolyn Rusema. G Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Conducts A Comprehensive Study On Adversarial Attacks And Defenses In Deep Neural Networks (Dnns). As Dnns Become Integral To Various Applications, Their Vulnerability To Adversarial Attacks Poses A Significant Concern. The Study Reviews Common Adversarial Attack Strategies, Including Gradient-Based Methods And Transfer Attacks, Analyzing Their Potential Impact On Dnn Models. Additionally, The Paper Explores Defense Mechanisms Such As Adversarial Training, Input Preprocessing, And Ensemble Methods, Designed To Enhance Robustness Against Attacks. By Examining The Arms Race Between Attackers And Defenders In The Realm Of Dnns, This Research Aims To Provide Insights Into The Evolving Landscape Of Adversarial Threats And The Development Of Effective Defense Strategies.

Keywords:

Adversarial Attacks, Defenses, Deep Neural Networks, Gradient-Based Attacks, Transfer Attacks, Adversarial Training, Robustness, Ensemble Methods.


PRINCIPAL
Indra Ganesan College of Engg
IG Valley, Madurai Main
Manikandam, Trichy-820 D12

79. Title –Transfer Learning In Neural Networks: Knowledge Transfer For Improved Performance

1 Dr.G.Balakrishnan Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

2 Harish.V Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12

Abstract:

This Paper Investigates The Application Of Transfer Learning In Neural Networks, Exploring The Technique Of Knowledge Transfer To Enhance Model Performance. Transfer Learning Involves Leveraging Knowledge Gained From One Task And Applying It To Another Related Or Distinct Task. The Study Reviews Various Transfer Learning Paradigms, Such As Domain Adaptation, Fine-Tuning, And Pre-Trained Models, Highlighting Their Applications In Diverse Domains. Emphasis Is Placed On How Transfer Learning Addresses Challenges Related To Limited Labeled Data, Model Generalization, And Task-Specific Adaptation. The Paper Also Discusses Considerations, Including Domain Similarity And Network Architecture Selection, Influencing The Effectiveness Of Transfer Learning. By Delving Into Transfer Learning, This Research Aims To Provide Insights Into Its Utilization For Improved Performance Across Various Neural Network Applications.

Keywords:

Transfer Learning, Neural Networks, Knowledge Transfer, Domain Adaptation, Fine-Tuning, Pre-Trained Models, Model Performance, Generalization, Task-Specific Adaptation

80. Title –Exploring Spiking Neural Networks For Neuromorphic Computing Applications

1 Dr.G.Balakrishnan Professor /Indra Ganesan College Of Engineering, Manikandam, Trichy 12.2

Nirmala.N Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Utilization Of Spiking Neural Networks (Snn) In Neuromorphic Computing Applications. Inspired By The Biological Neural Systems, Snn Differ From Traditional Artificial Neural Networks In Their Asynchronous And Event-Driven Nature, Mimicking The Spiking Behavior Of Biological Neurons. The Study Reviews The Fundamental Principles Of Snn, Including Spike Encoding, Synaptic Plasticity, And Spatio-Temporal Processing. It Delves Into The Potential Applications Of Snn In Neuromorphic Computing, Such As Pattern Recognition, Sensory Processing, And Cognitive Tasks. Additionally, The Paper Discusses Challenges And Opportunities Associated With The Implementation Of Snn, Considering Hardware Constraints And Learning Algorithms. The Findings Aim To Contribute To A Deeper Understanding Of Snn And Their Relevance In Advancing Neuromorphic Computing.

Keywords:

Spiking Neural Networks, Neuromorphic Computing, Spike Encoding, Synaptic Plasticity, Spatio-Temporal Processing, Pattern Recognition, Cognitive Tasks, Hardware Constraints, Learning Algorithms



PRINCIPAL

Indra Ganesan College of Engineering

AG Valley, Madurai Main Road

Manikandam, Trichy-620 012

81. Title – Explainability In Neural Networks: Interpretable Models For Decision Support

1 Dr.G.Balakrishnan Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12

2 Anjaladevi J Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12

Abstract:

This Paper Investigates The Importance Of Explainability In Neural Networks, Focusing On The Development Of Interpretable Models For Decision Support Systems. As Neural Networks Become Increasingly Complex, Their Decision-Making Processes May Seem Opaque, Hindering Their Adoption In Critical Applications. The Study Reviews Existing Methods And Techniques For Enhancing The Interpretability Of Neural Networks, Including Feature Visualization, Attention Mechanisms, And Rule-Based Models. Emphasis Is Placed On The Benefits Of Explainability In Applications Such As Healthcare, Finance, And Autonomous Systems. The Paper Also Discusses Challenges Associated With Achieving Both High Accuracy And Interpretability. The Findings Contribute To The Advancement Of Interpretable Neural Network Models, Facilitating Their Integration Into Decision Support Systems.

Keywords:

Explainability, Neural Networks, Interpretable Models, Decision Support, Feature Visualization, Attention Mechanisms, Rule-Based Models, Healthcare, Finance, Autonomous Systems.

82. Title – Cognitive Radio Networks For Efficient Spectrum Utilization In Wireless Sensor Networks

1 Mrs.Hussain Bibi Sikkandar Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Aparna S Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Integration Of Cognitive Radio Networks (CRNs) To Enhance Spectrum Utilization Efficiency In Wireless Sensor Networks (WSNs). Spectrum Scarcity Is A Significant Challenge In Wireless Communication, And CRNs Enable Intelligent And Dynamic Spectrum Access By Cognitive Devices. The Study Reviews The Fundamentals Of CRNs And Their Potential Applications In WSNs. It Delves Into Spectrum Sensing, Decision-Making Processes, And Spectrum Handoff Mechanisms That Enable WSNs To Opportunistically Access Available Frequency Bands. The Paper Also Discusses Challenges Such As Interference Management And Energy Consumption Optimization In The Context Of CRNs In WSNs. The Findings Contribute To Understanding The Role Of Cognitive Radio Technology In Improving Spectrum Utilization For More Efficient Wireless Sensor Network Operations.

Keywords:

Cognitive Radio Networks, Spectrum Utilization, Wireless Sensor Networks, Spectrum Sensing, Decision-Making, Spectrum Handoff, Interference Management, Energy Consumption Optimization.


PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

83. Title –Integration Of Machine Learning In Wireless Sensor Networks For Anomaly Detection

1 Mrs.Hussein Bibi Sikkandar Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12,
2 Archana T Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy

Abstract:

This Paper Investigates The Integration Of Machine Learning Techniques For Anomaly Detection In Wireless Sensor Networks (Wsns). Anomaly Detection Is Crucial For Identifying Unexpected Events Or Behaviors That May Indicate Potential Security Threats Or System Malfunctions. The Study Reviews Various Machine Learning Algorithms Suitable For Anomaly Detection In Wsns, Such As Clustering, Classification, And Ensemble Methods. Emphasis Is Placed On The Challenges Posed By Resource Constraints, Data Imbalance, And Dynamic Environmental Conditions In Sensor Networks. The Paper Explores Approaches To Enhance The Adaptability And Efficiency Of Machine Learning Models For Robust Anomaly Detection. The Findings Aim To Contribute To The Development Of Effective And Scalable Anomaly Detection Systems In Wireless Sensor Networks.

Keywords:

Machine Learning, Wireless Sensor Networks, Anomaly Detection, Clustering, Classification, Ensemble Methods, Resource Constraints, Data Imbalance, Dynamic Environments.

84. Title –Wireless Sensor Networks For Smart Cities: Applications And Challenges

1 Mrs.Hussein Bibi Sikkandar Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2
Bakkiya V Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Explores The Applications And Challenges Of Wireless Sensor Networks (Wsn) In The Context Of Smart Cities. Wsn Play A Crucial Role In Enabling The Deployment Of Smart City Infrastructure By Providing Real-Time Data Collection And Communication Capabilities. The Study Reviews Diverse Applications Of Wsn In Smart Cities, Including Environmental Monitoring, Traffic Management, Healthcare, And Public Safety. Additionally, The Paper Addresses Challenges Related To Network Scalability, Energy Efficiency, Data Security, And The Integration Of Heterogeneous Devices. By Examining Both The Positive Impact And Existing Hurdles, This Research Aims To Contribute To The Advancement Of Wsn As A Fundamental Technology For Building Efficient And Sustainable Smart City Ecosystems.

Keywords:

Wireless Sensor Networks, Smart Cities, Applications, Challenges, Environmental Monitoring, Traffic Management, Healthcare, Public Safety, Scalability, Energy Efficiency, Data Security.

12/05/2020



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

85. Title –Bio-Inspired Algorithms For Optimization In Energy-Harvesting Wireless Sensor Networks

1 Mrs.Hussain Bibi Siddikandar Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.

2 Dhanush S Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates The Application Of Bio-Inspired Algorithms For Optimization In Energy-Harvesting Wireless Sensor Networks (EH-Wsns). The Integration Of Energy Harvesting Technologies Introduces Unique Challenges And Opportunities In Wsns, Particularly Regarding Energy Management. The Study Reviews Various Bio-Inspired Optimization Algorithms, Such As Swarm Intelligence, Genetic Algorithms, And Simulated Annealing, Applied To Address Issues Related To Energy Efficiency, Network Longevity, And Adaptive Energy Harvesting. Emphasis Is Placed On How These Algorithms Mimic Natural Processes To Enhance The Overall Performance Of Eh-Wsns. The Paper Also Discusses Challenges And Potential Solutions Associated With The Application Of Bio-Inspired Optimization In The Context Of Energy Harvesting Wireless Sensor Networks. The Findings Aim To Contribute To The Development Of Robust And Adaptive Solutions For Optimizing Energy Utilization In Wsns.

Keywords:

Bio-Inspired Algorithms, Optimization, Energy-Harvesting, Wireless Sensor Networks, Swarm Intelligence, Genetic Algorithms, Simulated Annealing, Energy Efficiency, Adaptive Energy Harvesting.

86. Title –Dynamic Channel Allocation Strategies For Interference Mitigation In Dense Wireless Sensor Networks

1 Mrs.Hussain Bibi Siddikandar Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.2

Dhanush S Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Investigates Dynamic Channel Allocation Strategies Aimed At Mitigating Interference In Dense Wireless Sensor Networks (Wsns). In Densely Deployed Wsns, Interference Poses A Significant Challenge To Reliable Communication And Data Transmission. The Study Reviews Various Dynamic Channel Allocation Techniques, Considering Factors Such As Network Density, Traffic Patterns, And Interference Sources. The Paper Explores Approaches Such As Frequency Hopping, Cognitive Radio-Inspired Methods, And Machine Learning-Based Solutions For Adaptively Allocating Channels To Sensor Nodes. Emphasis Is Placed On How These Strategies Enhance Interference Resilience, Network Reliability, And Overall Communication Performance In Dense Wsns. The Findings Aim To Contribute To The Development Of Effective Solutions For Dynamic Channel Allocation, Addressing The Unique Challenges Of Interference In Densely Populated Wireless Sensor Networks.

Keywords:

Dynamic Channel Allocation, Interference Mitigation, Wireless Sensor Networks, Dense Deployments, Frequency Hopping, Cognitive Radio, Machine Learning, Network Reliability, Communication Performance.



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

87. Title –Post-Quantum Cryptography: Securing Communication In The Quantum Era

1 Mrs.V.Sweettha Assistant Professor /Indra Ganesan College Of Engineering,
Manikandam,Trichy 12.

2 Dhivya B Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam,
Trichy 12

Abstract:

This Paper Delves Into The Realm Of Post-Quantum Cryptography, Exploring The Need For And Challenges Associated With Securing Communication In The Quantum Era. The Advent Of Quantum Computers Poses A Threat To Current Cryptographic Algorithms, Necessitating The Development Of Quantum-Resistant Encryption Techniques. The Study Reviews Various Post-Quantum Cryptographic Approaches, Including Lattice-Based Cryptography, Code-Based Cryptography, And Hash-Based Cryptography. Emphasis Is Placed On Their Potential To Withstand Quantum Attacks While Ensuring The Confidentiality And Integrity Of Sensitive Information. The Paper Also Discusses The Transition Challenges And Considerations For Implementing Post-Quantum Cryptographic Solutions In Modern Communication Systems. The Findings Aim To Contribute To The Understanding And Development Of Robust Cryptographic Strategies For The Post-Quantum Era.

Keywords:

Post-Quantum Cryptography, Quantum Computers, Encryption, Lattice-Based Cryptography, Code-Based Cryptography, Hash-Based Cryptography, Quantum Attacks, Communication Security.

88. Title –Vulnerability Assessment In Networked Systems: Techniques And Best Practices

1 Mrs.V.Sweettha Assistant Professor /Indra Ganesan College Of Engineering,
Manikandam,Trichy 12.

2 Divya R Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam, Trichy 12.

Abstract:

This Paper Addresses Vulnerability Assessment In Networked Systems, Exploring Various Techniques And Best Practices To Identify And Mitigate Potential Security Threats. As Networked Systems Become More Interconnected, Understanding And Managing Vulnerabilities Are Critical For Ensuring Robust Cybersecurity. The Study Reviews Traditional And Advanced Vulnerability Assessment Methods, Including Network Scanning, Penetration Testing, And Automated Vulnerability Scanners. Emphasis Is Placed On The Importance Of Comprehensive Risk Analysis And The Integration Of Vulnerability Assessment Into The Overall Cybersecurity Strategy. The Paper Also Discusses Best Practices For Conducting Effective Vulnerability Assessments, Such As Regular Updates, Collaboration, And To Enhance The Security Posture Of Their Networked Systems.

Keywords:

Vulnerability Assessment, Networked Systems, Cybersecurity, Network Scanning, Penetration Testing, Automated Vulnerability Scanners, Risk Analysis, Best Practices.

89. Title –Threat Intelligence And Information Sharing Cybersecurity

1 Mrs.V.Sweettha Assistant Professor /Indra Ganesan College Of Engineering,
Manikandam,Trichy 12.

2 Ganeshkumar A Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam,
Trichy 12.

Abstract:

This Paper Explores The Significance Of Threat Intelligence And Information Sharing In The Field Of Cybersecurity. As Cyber Threats Continue To Evolve In Complexity And Sophistication, Collaboration And Proactive Intelligence Sharing Are Essential For Enhancing Cyber Defenses. The Study Reviews The Role Of Threat Intelligence In Identifying, Analyzing, And Mitigating Cyber Threats. It Delves Into Various Sources Of Threat Intelligence, Including Open-Source Feeds, Proprietary Feeds, And Government Agencies. Additionally, The Paper Discusses The Importance Of Effective Information Sharing Mechanisms Among Organizations, Industry Sectors, And Government Entities To Strengthen Collective Cybersecurity Efforts. The Findings Aim To Provide Insights Into The Integration Of Threat Intelligence And Information Sharing As Crucial Components Of A Comprehensive Cybersecurity Strategy.

Keywords:

Threat Intelligence, Information Sharing, Cybersecurity, Cyber Threats, Threat Analysis, Open-Source Feeds, Proprietary Feeds, Collective Defense.

94. Title –Security In Software-Defined Networking (Sdn): Risks And Countermeasures

1 Mrs.V.Sweettha Assistant Professor /Indra Ganesan College Of Engineering,
Manikandam,Trichy 12.

Gobala Krishnan R Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam,
Trichy 12.

Abstract:

This Paper Investigates Security Concerns In Software-Defined Networking (Sdn) And Explores Potential Risks And Countermeasures Associated With This Innovative Networking Paradigm. Sdn Offers Centralized Control And Programmability, Revolutionizing Network Management. But It Also Introduces New Challenges For Security. The Study Reviews Common Security Risks In Sdn, Including Controller Vulnerabilities, Unauthorized Access, And Data Plane Attacks. Emphasis Is Placed On Exploring Countermeasures Such As Encryption, Access Control Policies, And Anomaly Detection To Mitigate These Risks Effectively. The Paper Also Discusses The Importance Of Security-Aware Design And Ongoing Monitoring In Sdn Environments. The Findings Aim To Provide A Comprehensive Understanding Of Security Considerations In Sdn And Assist In Developing Robust Strategies For Safeguarding Software-Defined Networks.

Keywords:

Software-Defined Networking (Sdn), Security Risks, Countermeasures, Controller Vulnerabilities, Unauthorized Access, Data Plane Attacks, Encryption, Access Control.


PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

91. Title –Biometric Authentication In Networked Environments: Enhancing Access Control

1 Mrs.V.Sweetha Assistant Professor /Indra Ganesan College Of Engineering, Manikandam,Trichy 12.
2 Gunasekar P Pg Student/Cse Indra Ganesan College Of Engineering, Manikandam,Trichy

Abstract:

This Paper Explores The Integration Of Biometric Authentication In Networked Environments, Focusing On Its Role In Enhancing Access Control Mechanisms. Biometric Authentication Utilizes Unique Physiological Or Behavioral Characteristics, Such As Fingerprints, Facial Features, Or Voice Patterns, To Verify Individuals' Identities. The Study Reviews The Advantages Of Biometric Authentication In Networked Systems, Including Improved Security, Convenience, And Resistance To Unauthorized Access. Additionally, The Paper Addresses Challenges Such As Privacy Concerns, Template Protection, And System Integration. Emphasis Is Placed On How Biometric Authentication Contributes To Robust Access Control And The Protection Of Sensitive Information In Networked Environments. The Findings Aim To Provide Insights Into The Effective Implementation And Considerations Associated With Biometric Authentication For Secure Access Control.

Keywords:

Biometric Authentication, Networked Environments, Access Control, Security, Privacy Concerns, Template Protection, Identity Verification, Behavioral Characteristics.

92. Breast Cancer Detection Using Image Processing Techniques

Dr.N.Vaijayanthi, M.Saranya, J.Sorna

Abstract:

Breast Cancer Is One Of The Significant Reasons For Death Among Ladies. Many Research Has Been Done On The Diagnosis And Detection Of Breast Cancer Using Various Image Processing And Classification Techniques. Nonetheless, The Disease Remains As One Of The Deadliest Disease. Having Conceive One Out Of Six Women In Her Lifetime. Since The Cause Of Breast Cancer Stays Obscure, Prevention Becomes Impossible. Thus, Early Detection Of Tumour In Breast Is The Only Way To Cure Breast Cancer. Using Cad (Computer Aided Diagnosis) On Mammographic Image Is The Most Efficient And Easiest Way To Diagnosis For Breast Cancer. Accurate Discovery Can Effectively Reduce The Mortality Rate Brought About By Using Mamma Cancer. Masses And Microcalcifications Clusters Are An Important Early Symptoms Of Possible Breast Cancers. They Can Help Predict Breast Cancer At It's Infant State. The Image For This Work Is Being Used From The DdsM Database (Digital Database For Screening Mammography) Which Contains Approximately 3000 Cases And Is Being Used Worldwide For Cancer Research. This Paper Quantitatively Depicts The Analysis Methods Used For Texture Features For Detection Of Cancer. These Texture Features Are Extracted From The Roi Of The Mammogram To Characterize The Microcalcifications Into Harmless, Ordinary Or Threatening. These Features Are Further Decreased Using Principle Component Analysis(Pca) For Better Identification Of Masses. These Features Are Further Compared And Passed Through Back Propagation Algorithm (Neural Network) For Better Understanding Of The Cancer Pattern In The Mammography Image.

Keywords: Breast Cancer, Image Processing Techniques, Neural Network, Algorithm.



PRINCIPAL

Indra Ganesan College of Engineering
10 Valley, Madurai Main Road
Manikandam, Trichy-620 012

93. Cost Effective Solar Inverter

Dr.N.Valjayanthi

Abstract:

Solar Energy The Most Efficient, Eco-Friendly And Abundantly Available Energy Source In The Nature. It Can Be Converted Into Electrical Energy In Cost Effective Manner. In Recent Years, The Interest In Solar Energy Has Risen Due To Surging Oil Prices And Environmental Concern. In Many Remote Or Underdeveloped Areas, Direct Access To An Electric Grid Is Impossible And A Photovoltaic Inverter System Would Make Life Much Simpler And More Convenient. With This In Mind, It Is Aimed To Design, Build, And Test A Solar Panel Inverter. This Inverter System Could Be Used As Backup Power During Outages, Battery Charging, Or For Typical Household Applications. The Main Components Of This Solar System Are Solar Cell, Dc To Dc Boost Converters, And Inverter. Sine Wave Push Pull Inverter Topology Is Used For Inverter. In This Topology Only Two Mosfets Are Used And Isolation Requirement Between Control Circuit And Power Circuit Is Also Less Which Helps To Decrease The Cost Of Solar Inverter.

Keywords: Mosfet – Metal Oxide Semi-Conductor Field Effect Transistor, Pcs- PowerConditioning System

94. Enhanced Smart Energy Meter

Dr.N.Valjayanthi

Abstract:

Now A Days, Technology Has Developed To An Advanced Level So Customer Demand For Systems With Automation And High Security. The Prepaid Meter Is Important In Making The Consumer Having Sense About His Or Her Energy Consumption As Well As In Resolving The Issues Facing By The Utility Labor In Getting The Reading Of Conventional Meter And Eliminating The Error Incurred In Bills Issuing. This Research Aims To Enhance An Existing Conventional Energy Meter Integrate With Prepaid System And Protection System. The Designed Prepaid Meter Consists Of An Arduino, Conventional Energy Meter, Gsm (Global System For Mobile Communications) Module, Current Sensor And Relay. The Proposed Prototype Comprises Into Two Parts: Gsm Technology And Overcurrent Protection. Whereas Gsm Technology Is Used For Communication And Reloads Purpose; Overcurrent Protection Is Done With A Current Sensor And Relay Working Together

Keywords: Manufacturing, Energy Meter, Gsm Module, Relay


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

95. Smart Nano Satellite Using Bluetooth And Mobile Phone

Mr.B.G.Gopal, S.Kaardhana, S.Lathasri

Abstract:

With The Development Of Modern Technology And Android Smartphone, Smart Living Is Gradually Changing People's Life. Bluetooth Technology, Which Aims To Exchange Data Wirelessly In A Short Distance Using Short-Wavelength Radio Transmissions, Is Providing A Necessary Technology To Create Convenience, Intelligence And Controllability. In This Paper, A New Smart Living System Called Home Lighting Control System Using Bluetooth-Based Android Smartphone Is Proposed And Prototyped. First Smartphone, Smart Living And Bluetooth Technology Are Reviewed. Second The System Architecture, Communication Protocol And Hardware Design Are Described. Then The Design Of A Bluetooth-Based Smartphone Application And The Prototype Are Presented. It Is Shown That Android Smartphone Can Provide A Platform To Implement Bluetooth-Based Application For Smart Living.

Keywords: Android Smartphone, Smart Living, Bluetooth Module, Single Chip Microcomputer, Home Automation

96. High Frequency Sepic Converter Based Microgrid Development With Energy Management System

Mr.B.G.Gopal

Abstract:

With The Use Of Hybrid Renewable Sources For Example Solar And Wind Turbines, An Autonomous Electric Power Generation System Based On Self-Sufficient Electric Power Generation Is Built In Order To Promote A Smart And Ecologically Friendly Environment. The Three-Phase Inverter That Links This Scattered Generating Unit To The Grid Is In Charge Of Ensuring That It Is Properly Connected To The Grid. While The Energy Produced By The Hybrid Unit Is Being Utilized, It Is Also Being Stored In The Batteries So That It May Be Used To Transport Power When Other Sources Of Power Are Not Available, Such As When The Grid Is Down. This Stand-Alone Power Conversion And Storage System Is Being Built With The Aid Of Power Electronic Converters And Controllers, Among Other Components, In Order To Ensure Balanced Power Flow Operation. To Produce Pwm Pulses For The Generator Side Converter, A Pi Controller Is Utilized. On The Pv Side, An Improved Pi Controller Is Used To Drive The Sepic Converter, Which Increases The Transient Responsiveness Of The Converter While It Is Being Controlled By The Controller. In Order To Communicate With The Grid, The Generated Electricity Is Routed Via A Three-Phase Resolved By The Converters That Have Been Presented.

Keywords: Hybrid Renewable Sources, Pwm, Sepic, Dq Theory, Matlab



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

97. Hybrid Energy Based Charging Station For Electric Vehicle

Mr.B.G.Gopal

Abstract:

Higher Penetration Of Electric Vehicles (Evs) And Plug-In Hybrid Electric Vehicles Requires Efficient Design Of Charging Stations To Supply Appropriate Charging Rates. This Would Trigger Stress On Conventional Grid, Thus Increasing The Cost Of Charging. Therefore, The Use Of On-Site Renewable Sources Such As Photo-Voltaic (Pv) Energy Alongside To The Conventional Grid Can Increase The Performance Of Charging Station. In This Thesis, Pv Source Is Used In Conjunction With Grid To Supply Ev Load. However, The Pv Is Known For Its Intermittent Nature That Is Highly Dependent On Geographical And Weather Conditions. To Compensate The Intermittency Of Pv, A Battery Storage System (Bss) Is Combined With The Pv In A Grid-Tied System For Providing A Stable Operation Of Hybrid Pv Based Charging Station. Generally, Hybrid Sources-Based Charging Station Should Be Cost Effective, Efficient, And Reliability To Supplement The Variable Needs Of Evs Load In Different Scenarios. In This Thesis, Efficient Hierarchical Energy Management Strategy Is Proposed And Applied To Maximize On-Site Pv Energy, To Meet The Variable Load Of Evs Considering The Fast Response Of Bss And Putting Less Stress On Grid. This Strategy Improves The Overall Performance, The Reliable And Cost. An Efficient Bidirectional Power Conversion Stage Is Introduced For Bss In The Form Of Interleaved Buck-Boost Converter To Proposed Charging Strategy Greatly Decreases The Stress On Grid Especially At Peak Hours. To Operate The System Under Desirable Conditions, A Rule-Based Management Strategy (Rems) Is Proposed. This Interactive Strategy With Limits In Response Time Strategy, Initializing From Maximized Utilization Of Pv Source, Then Using Bss To Supplement Power And Utilizing Grid During Intermittent Conditions Affecting Pvs. The Management Strategy Ensures Reliable Operation Of System, While Maximizing The Pv Utilization, Meeting The Evs Demand And Maximizing The Life The Bas. In This Thesis, A Hybrid Charging System Based On Pv, Bss And Conventional Grid Is Proposed To Support The Needs Of Evs Load. Efficient Energy Conversion Stage Is Proposed Using Interleaved Buck-Boost Converters To Improve The Quality Of Power. State Of Charge Estimation (Soc) Of Lithium-Ion Battery Using An Extend Kalman Filter (EKF) Is Proposed. On-Line Management Strategy Is Developed To Maximize The Renewable Energy Utilization, To Inert Lesser Stress On Grid And To Improve The Utilization Of Bss

Keywords: Electric Vehicle Charging Station, Power Conversion Stages, Battery Modelling Energy Management System.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

98. Design Of Microstrip Low Pass Filter Using Stepped Impedance Method

Dr.M.Bhuvaneshwari, Surendran S , B.Ravikumar

Abstract:

There Is An Increasing Demand For Microwave Systems To Meet The Emerging Telecommunication Challenges With Respect To Size, Performance And Cost. This Project Describes A General Design Technique For Micro Strip Low Pass Filters That Are Used To Convey Microwave Frequency Signals. The Parasitic Problems Of X- Band Can Be Adjusted Through Impedance Ratio K, Which Can Enhance The Performance Of Harmonic Suppression. The Ads Simulation Tool Is Used To Design An X-Band Stepped Impedance Low Pass Filter Of Range 8-12 Ghz. This Simulation Results Show That The Filter Works On 10ghz At The Center Frequency And Achieves Attenuation Of 60db, Which Effectively Suppresses The Parasitic Bands. To Attain The Filter With These Characteristics, Insertion Loss Method Is Performed. Compared To Other Filter Types, This Design Works Very Well With Excellent Harmonic Suppression Performance.

Keywords: Ads, Attenuation, Harmonic Suppression, Insertion Loss, Micro Strip, Stepped Impedance.

99. Movable Solar Charging System For Various Dc Appliances

Dr.M.Bhuvaneshwari

Abstract:

The Objective Of This Research Is To Design A Solar Powered Portable Power Bank For Mobile Phone Using Sunlight As Its Ultimate Power, Which Can Be Used Effectively During Disaster Events. It Has In-Built Solar Panel Which Converts The Solar Energy To Electrical Energy. The Charge Is Then Transferred To A Battery For Storage Of Charge For Further Use, With The Battery Having A Microcontroller Indicating The Percent Of Charge Present In The Battery. The Battery Is Connected To A Charging Circuit Having An Usb Port As Output To The Respective Mobile Phones.

Keywords: Solar Energy, Portable, Disaster Recovery, Battery

100. Performance Enhancement Of A Partially Shaded Photovoltaic Array By Intelligent Series Inducing Switching Scheme (Isss)

Dr.M.Bhuvaneshwari

Abstract:

The Output Of A Photovoltaic Array Is Reduced Considerably When Pv Panels Are Shaded Even Partially. The Impact Of Shading Causes An Appreciable Loss In Power Delivery, Since The Pv Panels Are Connected In Series And Parallel To Contribute To The Required Voltage And Power For The Load. The Prevailing Research On Mitigating The Shading Impact Is Mostly Based On Complex Reconfiguration Strategies Where The Pv Panels Are Subjected To Complex Rewiring Schemes. On The Other Hand, To Disperse The Shading Many Studies In The Literature Defend The Physical Rearrangement Of The Panels. The Available Intensive Reconfiguration Schemes, Such As The Series Parallel (Sp), Bridge Link (Bl), Honeycomb (Hc), And Total Cross Tied (Tct) Schemes, Try Only To Mitigate The Shading Impact And There Is No Scope For Compensation; As A Result, A Loss Of Output Power Is Inevitable. In The Proposed Research Work, Both The Mitigation Of And The Compensation For The Losses Incurred Due To Shading Are Studied. In This Work, An Optimal Reconfiguration Scheme Is Adopted To Reduce The Shading Impact And A Power Electronic Circuit With A Battery Source Is Designed To Compensate For The Shading Losses In All Aspects. In The Optimal Reconfiguration Scheme, A Bifurcation Strategy Is Adopted In Each Column And The Electrical Connections Of The Pv Panels Are Interchanged Such That The Shading Impact Is Dispersed. The Power Electronic Circuit Consists Of A Half-Bridge Buck Converter With A Battery Source That Injects The Current Required By A Shaded Column. This Setup Compensates For The Shaded Pv Array's Power And Improves The Efficiency Of The Total System. The Proposed Scheme Was Implemented In A 3200 W System And Subjected To Various Shading Patterns, Including Single Panel Shading, Corner Shading, Long And Wide Shading, And Random Shading. The Proposed Scheme Was Simulated In The Matlab Simulink Environment And Compared With Static 4 × 4 Pv Array Configurations, Including The Series Parallel (Sp), Bridge Link (Bl), Honeycomb (Hc), And Total Cross Tied (Tct) Configurations. The Comparative Performance Was Assessed In Terms Of Mismatch Power Loss, Fill Factor, And Efficiency. The Proposed System Is Suitable For All Shading Patterns And Was Proved To Be Very Efficient Even In The Worst Shading, Where 1353 W Was Saved.

Keywords: Photovoltaic Array, Partial Shading, Series Parallel, Reconfiguration, Current Injection, Maximum Power Point Tracking, Dc To Dc Converter



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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012**

101. Design For Test Ability Using Scanpath Techniques For Path Delay Test And Measurement

Ms.R.Bhuvanawari, S.Kandasamy

Abstract:

This Paper Presents Techniques For Using Scanpath Techniques In Testing And Measuring Path-Delays In A Digital Integrated Circuit. Whereas Scanpath Techniques Have Been Used By Others For Detection Of Stuck-At Type Failures Their Use In Detecting Timing Faults And Measuring Propagation Delays Through Combinational Circuit Elements Inside Complex Digital Chips Appears To Be New. In Particular, The Double-Strobe Flip-Flop Which Enables Generation And Application Of Path-Delay Test Patterns Using Regularly Available Scanpath Methods Appears To Be Novel And Provides A Significant Advancement Of The Scanpath Methodology. Design Of The Double-Strobe Flip-Flop Using Cmos Gate-Array Technology Is Included In The Paper. This Flip-Flop, Which Was Designed At Hewlett Packard Is Also Available To Gate-Array Users Through Motorola.

Keywords: Scanpath, Propagation Delays, Combinational Circuit, Double-Strobe Flip-Flop, Cmos Gate-Array, Motorola

102. Photovoltaic Module-Integrated Stand-Alone Single-Stage Switched Capacitor Inverter With Maximum Power Point Tracking

Ms.R.Bhuvanawari

Abstract:

A Switched Capacitor (Sc) Based Inverter That Tracks The Maximum Power Point (Mpp) Of A Photovoltaic (Pv) Source And Generates A Pure Sine Output Is Presented. To Enable Integration With The Pv Module, Efficiency And Compactness Are Maximized With A Single Stage Topology That Tracks The Mpp Of The Pv Source, Boosts The Input Dc Voltage And Generates A Regulated Ac Output In A Standalone Configuration With Scope For Grid Connected Applications. The Sc Inverter Is Realized With Multiple Identical Sc Blocks Controlled By Sinusoidal Pulse Width Modulation And Load Dependent Output Capacitor Adjustment. A Detailed Steady State Analysis Is Done And A Mathematical Model Is Derived To Understand The Interdependence Of Various Inverter Parameters On Each Other And To Optimally Choose The Inverter Components. A Hardware Prototype Of The Standalone Single Stage Sc Inverter That Operates From A 60w / 70w Pv Module And Delivers A 110v Rms, 50hz Output Is Wired To Demonstrate The Functioning Of The Proposed Mpp Tracking Inverter Under Different Operating Conditions. An Inversion Efficiency > 95%, Tracking Efficiency > 97% And Tbd < 4% Have Been Practically Achieved. All The Details Of This Work Are Presented

Keywords: Inverter, Maximum Power Point Tracking, Module Integrated, Photovoltaic Source,



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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandan, Trichy-620 012

103. Poisonous Sewage Gas Detection And Recycling Sewage Water

Ms.R.Bhuvaneshwari

Abstract:

As The Global Population Grows And Water Resources Become Scarce, The Only Way To Effectively Conserve And Utilise Them Is By Adequately Treating And Reusing Them. In Sewage Treatment Plants, Ensuring A Safe Gaseous Environment For The Worker's Health Is Essential. Exposure To Toxic Gases For A Long Duration May Cause Health Issues For Workers. It Is Essential To Understand These Factors And Take Necessary Precautions To Prevent Further Deterioration Of Their Health. In This Work, We Aim To Develop A Sensor-Based System That Measures The Intensity Levels Of Toxic Gases Like Methane, Ammonia, Carbon Dioxide, And Hydrogen Sulphide Emitted From The Plant And Spread To Its Environment And To Alert At The Right Time To Safeguard The Humans Around. We Compared These Gas Levels With Data Captured In Good Air To Demonstrate The High Density Of The Toxic Gases In The Plant.

Keywords: Internet Of Things, Sewage Treatment Plant, Sensors, Safe Environment, Toxic Gases, Human Health And Safety, Automation.

104. An Efficient Fpga Implementation Of The Advanced Encryption Standard Algorithm

Mrs.P.Santhana Selvi, P.Saranya

Abstract:

In The Paper The Advanced Security System Was Enforced With Reconfigurable Hardware. Here Field Programmable Gate Arrays (Fpgas) Provide A Additional Speed Than Existing Implementations. This Analysis Investigates The Aes Algorithmic Rule With Reference To Fpga And Also The Terribly High Speed Microcircuit Hardware Description Language (Vhdl). Here System Is Design So That We Can Use Same Aes Architecture For Both Text And Digital Files. In SpartanJ Edk We Implemented The Aes Algorithm With The Soft Core Processor Micro Blaze Which Is Used For Developing A Hardware Structure Which Is Configured Using System C Coding.

Keywords: Advanced Encryption Standard, Vhdl,Fpga.



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**Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mazhakadam, Trichy-620 012**

105. Study On The Recycling Of Waste Wind Turbine Blades

Mrs.P.Santhana Selvi

Abstract:

The Pyrolysis Process Of Waste Wind Turbine Blades In The Coal-Fired Flue Gas Was Studied. The Effects Of Pyrolysis Temperature, Pyrolysis Time, Flue Gas Composition And Heating Mode On The Pyrolysis Product Were Investigated, And The Pyrolysis Mechanism Was Also Analyzed. Finally, The Industrial Implementation Scheme Of Pyrolysis Process In Coal-Fired Power Plants Was Formulated. The Results Showed That The Matrix Resin Of Wind Turbine Blades Could Be Carbonized And Then Oxidized By Direct Heating With The Flue Gas. A Clean Glass Fiber Was Finally Obtained To Recycle. When The Blade Was Pyrolyzed At 420-450 °C For 5-6 H, The Purity Of Recycled Fiber Was Above 99 % And Its Tensile Strength Decrease Was Less Than 10 % Compared With The Original Fiber. During The Pyrolysis Process, The Concentration Of So₂ In Flue Gas Had Little Effect On The Quality Of Recycled Fiber Because Of Its Nonreactivity With SiO₂. In Coal-Fired Power Plants, A Small Fraction Of Flue Gas Was Pumped From The Tail Flue Of Boiler By A Fan. The Flue Gas After Dust Removal Was Sent To A Recovery Furnace, Where The Blade Was Pyrolyzed. The Tail Gas Was Transported To The Boiler Furnace For Complete Combustion And Then Purified By The Existing Pollutant Purification Devices In The Power Plant. According To The Above Scheme, The Recycling Of Waste Wind Turbine Blades In Coal-Fired Power Plants Could Be Readily Realized By Equipping A Duster, A Recovery Furnace And A Fan.

Keywords: Wind Turbine Blade, Recycle, Coal-Fired Flue Gas, Pyrolysis

106. Smart Power Factor Correction And Energy Monitoring System

Mrs.P.Santhana Selvi

Abstract:

Transformers Are Important Elements In The Process Of Transmission And Distribution Of Electricity. Transformer Is One Of The Vital And Costliest Components Of Electrical Industry. As Large Number Of Distribution Transformers Are Installed Over A Wide Area, Monitoring And Maintenance Of These Transformers Is An Important Issue. Therefore This Paper Presents The System Which Monitor Different Parameters Of Distribution Transformer And These Data Are Continuously Updated On To A Webpage Using Iot. If Any Abnormality Occurs, The System Sends Alert Messages To The Concerned Person And An Electronic Relay Operates. As The Inductive Load Increases There Will Be A Decrease In Power Factor, Therefore This System Incorporates A Power Factor Improvement Mechanism By Switching Capacitor Banks. The Main Objective Of This Project Is To Develop A System Which Will Help The Utilities In The Protection Of Transformer And Identify Problems Before Any Catastrophic Failure.

Keywords: Distribution Transformer, Iot, Monitoring, Power Factor, Capacitor Banks



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-820 012

107. Implementation Of An Internal Response Based Hybrid Bist Architecture

Ms.M.Mahalakshmi, G.Revathi

Abstract:

This Paper Presents A Hybrid Bist Architecture And Methods For Optimizing It To Test Systems-On-Chip In A Cost Effective Way. The Proposed Self-Test Architecture Can Be Implemented Either Only In Software Or By Using Some Test Related Hardware. In Our Approach We Combine Pseudo Random Test Patterns With Stored Deterministic Test Patterns To Perform Core Test With Minimum Time And Memory, Without Losing Test Quality. We Propose Two Algorithms To Calculate The Cost Of The Test Process. To Speed Up The Optimization Procedure, A Tabu Search Based Method Is Employed For Finding The Global Cost Minimum. Experimental Results Have Demonstrated The Feasibility And Efficiency Of The Approach And The Significant Decreases In Overall Test Cost.

Keywords: Bist, Pseudo Random Test, Optimization, Tabu Search

108. Solar Based Home Automation Using Nodemcu & Blynk App

Ms.M.Mahalakshmi

Abstract:

Wireless Home Automation System (Has) Using Iot Is A System That Uses Computers Or Mobile Devices To Control Basic Home Functions And Features Automatically Through Internet From Anywhere Around The World, An Automated Home Is Sometimes Called A Smart Home. It Is Meant To Save The Electric Power And Human Energy. The Home Automation System Differs From Other System By Allowing The User To Operate The System From Anywhere Around The World Through Internet Connection. It Requires A Node Mcu Board, Relays, Blynk Application, Web-Hook, And Iftt. In This Paper We Present A Home Automation System (Has) Using Blynk Community

Keywords: Home Automation, Relay, Controlling, Iott, Blynk, Internet.



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**Indra Ganesan College of Engineering
18 Vello, Madurai Main Road
Masilankulam, Trichy-620 012**

109. Solar Tracking System In Build With Micro Inverter

Ms.M.Mahalakshmi

Abstract:

The Project Deals With Use Of Alternative Energy Resource For Power Generation Which Can Be Used To Supply Power In Domestic Application. Solar Energy Is A Very Large, Inexhaustible Source Of Energy And Green Energy System. Solar Energy Has A Major Advantage For No Impure Outlets But Problem Associated With Solar Is Less Efficiency And High Cost. The Power From The Sun Intercepted By The Earth Is Approximately 1.8×10^{11} mw, Which Is Many Thousand Times Larger Than The Present Consumption Rate On The Earth Of All Commercial Energy Sources. Solar Tracking System Can Be Used As A Power Generating Method From Sunlight. This Method Of Power Generation Is Simple And Is Taken From Natural Resource. This Needs Only Maximum Sunlight To Generate Power. This Project Presents For Power Generation And Sensor Based Solar Tracking System To Utilize The Maximum Solar Energy Through Solar Panel By Setting The Equipment To Get Maximum Sunlight Automatically In Real Time. This Proposed System Is Tracking For Maximum Intensity Of Light. When There Is Decrease In Intensity Of Light, This System Automatically Changes Its Direction Step Up And Step-Down The Voltage, And Store The Maximum Utilized Output Voltage In Lead-Acid Battery.

Keywords: Green Energy System, Sensor Based Solar Tracking System, Sunlight, Buck-Boost Converter, Lead-Acid Battery.

110. Low Area Boundary Bist Architecture For Network On Chip

Ms.R.Nithya ,T.Christal Jennifer

Abstract:

In This Paper We Propose A Bist Based Method To Test Network On Chip (Noc) Communication Infrastructure. The Proposed Method Utilizes An Ieee 1149.1 Architecture Based On Bist To At-Speed Test Of Crosstalk Faults For Inter-Switch Links As Well As An Ieee 1500- Compliant Wrapper To Test Switches Themselves In Noc Communication Infrastructure. The Former Architecture Includes Enhanced Cells Intended For Maf Model Test Patterns Generation And Analysis Test Responses, And The Later Architecture Includes: (A) A March Decoder Which Decodes And Executes March Commands, Which Are Scanned In Serially From Input System, On First-In- First-Out (Fifo) Buffers In The Switch; And (B) A Scan Chain Which Is Defined To Test Routing Logic Block Of The Switch. To At-Speed Test Inter-Switch Links One New Instruction Is Used To Control Cells And Tpg Controller. Two New Instructions, As Well As, Are Applied To Activate March Decoder And To Control Scan Activities In Switch Test Session. These Instructions Are Defined To Fully Comply With Conventional Ieee 1149.1 And Ieee 1500 Standards.

Keywords: Communication Infrastructure, Bist, Ieee 1149.1, Ieee 1500, Noc

111. Adcnet: Adaptive Deep Cnn For Classification Of Synthetic Aperture Radar Images

Ms.R.Nithya

Abstract:

Synthetic Aperture Radar (Sar) Provides High-Resolution Imagery And Can Operate In The Day And At Night And In Every Weather Condition. Sar Has Been Used For Military Reconnaissance And Surveillance. Examining Sar Images Manually, However, Is Challenging Even For A Specialist, Since It Is Difficult To Find High-Value Targets In A Wide Area Of Sar Images. This Is Especially True When Time Is Critical For Operations. Thus, An Efficient, Reliable Method To Analyze Sar Images Automatically Is Needed. To Solve This Problem, Deep Learning (Dl) Methods Are Developed For Automatic Target Recognition (Atr). A Convolution Neural Network (Cnn) Is A Deep-Learning Algorithm Made Up Of Several Processing Layers For Target Recognition And Classification. One Of The Challenges In Developing And Testing A Cnn Algorithm Is To Find Relevant Datasets. The Dataset Used In This Thesis Comes From The Moving And Stationary Target Acquisition And Recognition Program (Mstar). In This Research, The Sar Atr Concept And Performance Are Variable Parameters Within Cnn Dl Architectures To Gain Insight Into It Was Possible To Classify Sar Targets Successfully And Automatically With State-Of-The-Art Accuracy. This Method Proved Useful For Classification And Recognition Of Military Targets.

Keywords: Synthetic Aperture Radar, Deep Learning, Automatic Target Recognition, Convolution Neural Network, Moving And Stationary Target Acquisition And Recognition Program

112. Wavelet Transform Based Split Image Compression On Fpga

Mr.K.Kumar, V.Kavitha

Abstract:

Wavelet Transform Has Been Successfully Applied In Different Fields, Ranging From Pure Mathematics To Applied Sciences. Numerous Studies Carried Out On Wavelet Transform Have Proven Its Advantages In Image Processing And Data Compression. Recent Progress Has Made It The Basic Encoding Technique In Data Compression Standards. Pure Software Implementations Of The Discrete Wavelet Transform, However, Appear To Be The Performance Bottleneck In Real-Time Systems. Therefore, Hardware Acceleration Of The Discrete Wavelet Transform Has Become A Topic Of Interest. The Goal Of This Work Is To Investigate The Feasibility Of Hardware Acceleration Of Discrete Wavelet Transform For Image Compression Applications, And To Compare The Performance Improvement Against The Software Implementation. In This Thesis, A Design For Efficient Hardware Acceleration Of The Discrete Wavelet Transform Is Proposed. The Hardware Is Designed To Be Integrated As An Extension To Custom-Computing Platform And Can Be Used To Accelerate Multimedia Applications As Jpeg2000 Or Mpeg-4.

Keywords: Wavelet Transform, Discrete Wavelet Transform, Jpeg2000, Mpeg-4.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

113. Ai Driven Plant Disease Detection System For Smart Agriculture

Mr.K.Kumar

Abstract:

Smart Agriculture Techniques Have Recently Seen Widespread Interest By Farmers. This Is Driven By Several Factors, Which Include The Widespread Availability Of Economically-Priced, Low-Powered Internet Of Things (Iot) Based Wireless Sensors To Remotely Monitor And Report Conditions Of The Field, Climate, And Crops. This Enables Efficient Management Of Resources Like Minimizing Water Requirements For Irrigation And Minimizing The Use Of Toxic Pesticides. Furthermore, The Recent Boom In Artificial Intelligence Can Enable Farmers To Deploy Autonomous Farming Machinery And Make Better Predictions Of The Future Based On Present And Past Conditions To Minimize Crop Diseases And Pest Infestation. Together These Two Enabling Technologies Have Revolutionized Conventional Agriculture Practices. This Survey Paper Provides: (A) A Survey Of Available Iot Technologies And Ai Techniques; (B) A Critical Review Of These Two Available Technologies And Challenges In Their Widespread Deployment; And (C) An In-Depth Discussion About The Future Trends Including Both Technological And Social, When Smart Agriculture Systems Will Be Widely Adopted By The Farmers Globally

Keywords: Smart Agriculture, Internet Of Things (Iot), Smart Irrigation, Organic Farming, Artificial Intelligence (Ai), Big Data.

114. Anomaly Detection In Financial Data For Protecting The Database

Mr.K.Kumar

Abstract:

With The Emergence Of More And More Massive Data, Under The Background Of Large Data, The Existing Angle-Based Anomaly Detection Algorithms Have The Problem Of Too Much Computation. Based On This, This Paper Improves The Angle-Based Anomaly Detection Method, And Proposes An Angle-Based Anomaly Detection Method Based On Data Center For Anomaly Detection Of Large Amount Of Network Financial Transaction Data. By Establishing Data Update Mechanism For Different Data Sets, Real-Time Data Detection Can Be Carried Out.

Keywords: Computation, Angle-Based Anomaly, Real-Time Data.

115. Performance Analysis Of Low Power Synchronization Ofdm System Using Vlsi Technology

Mr.J.Manokaran , V.Gowri

Abstract:

Orthogonal Frequency-Division Multiplexing (Ofdm) Is A Multi Carrier Modulation Scheme Mainly Used For Digital Communications. The Performance Of Ofdm System Heavily Depends On The Synchronization Scheme Used. In Most Cases, The Accuracy Level Of Synchronization Will Be Worsened By The Error Caused In Fixed Point Arithmetic Involved. In This Paper, We Analyze The Impact Of The Fixed-Point Arithmetic On The Performance Of The Coarse Timing And Frequency Synchronization. Here With An Analytical Approach Through Numerical Simulations Bit Length Of Ieee 754 Standard Single Precision Format Is Optimized According To The Required Degree Of Accuracy For Low Complexity. Also, A Complete Precision Level Requirement For Fft Computations With All Possible Modulation Types Is Obtained. The Proposed Precision Model Is Compared With Ieee Standard Single Precision Model And Its Efficiency In Ofdm Synchronization Process Is Proved Through Matlab Simulations. Finally, The Complexity Reduction Of Proposed Precision Model In Both Addition And Subtraction Is Proved Against Single Precision Format Using Hardware Synthesis. Here We Proved That More Than 50% Complexity Reduction Is Achieved As Compared To Standard Precision Models Without Compromising Quality. The Quality Retention Of Proposed Model Is Proved In Both Timing And Frequency Synchronization Process.

Keywords: Ofdm, Fast Fourier Transform, Floating Point Arithmetic, Synchronization, Customization

116. Area Efficient Arithmetic Block Using Reversible Logic For Dsp Application

Mr.J.Manokaran

Abstract:

The Advancement And Improved Of Computerized World, For Example, Pc Portable Workstation Adding Machine And Numerous Computational Gadgets Utilized Cpu. The Cpu Is Heart Of Any Computational And Practical Model. The Fundamental Centre Some Portion Of Cpu Is Alu. The Alu Play Out The Number-Crunching Operation For The Working Of Advanced Gadget. In This Dissertation We Design A Very Efficient Alu Structure For The Processing Of High Speed Data And Pattern Analysis In The Reversible Mode. To Improve The Memory Utilization And Heat Emission Reduces The Instruction Cycle For The Processing Of Data.

Keywords: Arithmetic Logic Unit, Central Processing Unit, Ripple Carry Adder, Personal Digital Assistant.

117. High Performance Downlink Baseband Receiver For Stbc-Ofdm Technique With Channel Estimator

Mr.S.Balakrishnan,N.Kiruthiga

Abstract:

This Paper Proposes A Space Time Block Code-Orthogonal Frequency Division Multiplexing Downlink Baseband Receiver For Mobile Wireless Metropolitan Area Network. The Proposed Base Band Receiver Applied In The System With Two Transmit Antennas And One Receive Antenna Aims To Provide High Performance In Out-Door Mobile Environments. It Provides A Simple And Robust SynChronizer And An Accurate But Hardware Affordable Channel Es-Timator To Overcome The Challenge Of Multipath Fading Channels. The Coded Bit Error Rate Performance For 16 Quadrature Amplitude Modulation Can Achieve Less Than 10^{-6} Under The Vehicle Speed Of 120 Km/Hr. The Proposed Baseband Receiver Designed In 90-Nm Cmos Technology Can Support Up To 27.32 Mb/S Uncode Data Transmission Under 10 Mhz Channel Bandwidth. It Requires A Core Area Of $2.4 \times 2.4 \text{ mm}^2$ And Dissipates 68.48 Mw At 78.4 Mhz With 1 V Power Supply.

Keywords: Baseband Receiver, Channel Estimator , Space Time Block Code-Orthogonal Frequency Division Multiplexing (Stbc-Ofdm) System, Synchronizer, Wireless Metropolitan Area Network (Wman)

118. Arrangement And Enhancing Productivity Of A Conical Solar Still

Mr.S.Balakrishnan

Abstract:

In This Paper, An Attempt Is Made To Estimate The Heat Transfer Coefficients Of A Conical Solar Still. Many Researches And Development Works Tried To Enhance The Productivity Of Solar Stills Using Different Methods. So In This Study The Productivity Enhancement Of Solar Still By Decreasing The Shadow Effect And Maximize Utilization Of Solar Radiation Is Discussed. A Conical Solar Still Was Designed And Manufactured At Faculty Of Engineering Sheben El-Kom – Egypt (Latitude 30.56 N And Longitude 31.01 E). The Still Base Area Was 0.8 M² , And The Acrylic Cover Of Still Inclined At 31 Which Equal To The City Latitude. The Experimental Results Of Conical Solar Still Were Compared With A Conventional Type Solar Still Which Has The Same Area. The Results Showed T Were Calculated With The Aid Of Both Evaporation Measurements And Chilton–Colburn Analogy. Conventional Solar Stills, Respectively. The Analogy Between Heat And Mass Transfer Coefficients Was Also Investigated. 2015 Elsevier Ltd. All Rights Reserved.

Keywords: Solar Energy, Heat And Mass Transfer, Solar Still, Conical



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IG Valley, Madurai Main Road
Manikandava, Trichy-620 012

119. Implementation Of Efficient Lifting Based Multi Level 2-D Dwt

Mrs.B.Saraswathi, R.Vijayamoohanaregan

Abstract:

A Efficient Vlsi Based Architecture Is Proposed In This Paper For Implementation Discrete Wavelet Transform (Dwt) Of 5/3 Filter. The Proposed Architecture Includes Transforms Modules, A Ram And Bus Interfaces. This Architecture Works In Non Separable Fashion Using A Serial-Parallel Filter With Distributed Control To Compute All The Dwt (1d-Dwt And 2d-Dwt) Resolution Levels.

Keywords: Discrete Wavelet Transform, Lifting Scheme, 5/3 Filter

120. Artificial Coloring On Neutral Images Using Autoencoder With Transfer Learning

Mrs.B.Saraswathi

Abstract:

In This Paper, We Propose A Deep Convolutional Neural Network Model With Transfer Learning That Reflects Personal Preferences From Inter-Domain Databases Of Images Having Atypical Visual Characteristics. The Proposed Model Utilized Three Public Image Databases (Fashion-Mnist, Labeled Faces In The Wild [Lfw], And Indoor Scene Recognition) That Include Images With Atypical Visual Characteristics In Order To Train And Infer Personal Visual Preferences. The Effectiveness Of Transfer Learning For Incremental Preference Learning Was Verified By Experiments Using Inter-Domain Visual Datasets With Different Visual Characteristics. Moreover, A Gradient Class Activation Mapping (Grad-Cam) Approach Was Applied To The Proposed Model, Providing Explanations About Personal Visual Preference Possibilities. Experiments Showed That The Proposed Preference-Learning Model Using Transfer Learning Outperformed A Preference Model Not Using Transfer Learning. In Terms Of The Accuracy Of Preference Recognition, The Proposed Model Showed A Maximum Of About 7.6% Improvement For The Lfw Database And A Maximum Of About 9.4% Improvement For The Indoor Scene Recognition Database, Compared To The Model That Did Not Reflect Transfer Learning.

Keywords: Personal Preference, Deep Learning, A Typical Features, Fashion-Mnist, Lfw, Indoor Scene Recognition, Convolutional Neural Networks, Grad-Cam



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

121. Logical Effort For Dual Mode Logic Gates With Delay And Power Optimization

Mrs.V.Elakkiya

Abstract:

Logic Optimization And Timing Estimations Are Basic Tasks For Digital Circuit Designers. Dual Mode Logic (Dml) Allows Operation In Two Modes Such As Static And Dynamic Modes. Dml Gates Can Be Switched Between These Two Modes On Feature Very Low Power Dissipation In The Static Mode And High Speed Of Operation In Dynamic Mode Which Is Achieved At The Expense Of Increased Power Dissipation. We Introduce The Logical Effort (Le) Methodology For The Cmos-Based Family. The Proposed Methodology Allows Path Length, Delay And Power Optimization For Number Of Stages With Load. Logical Effort Is The Transistor Sizing Optimization Methodology Reduces The Delay And Power With Number Of Stages With Any Static Logic Gate. The Proposed Optimization Is Shown For Dual Mode Logic Gates With Logical Effort Using Digital Schematic Tool (Dsch).

Keywords: Dual Mode Logic, Static Mode, Dynamic Mode, Logical Effort Methodology, Digital Schematic Tool (Dsch)

122. Demand Side Management Techniques -

A Review Mrs.V.Elakkiya

Abstract:

Several Demand Side Management (Dsm) Techniques And Algorithms Used To Show That By Adopting Dsm And Time-Of-use (Tou) Price Tariffs, Electricity Cost Significantly Decreases, And Optimum Load Scheduling Is Achieved. In The First Part, This Paper Gives A Comprehensive Literature Review On Dsm's That Are Related To Load Scheduling, Direct Load Control (Dlc), And Demand Response (Dr). In The Second Part, Two Algorithms Are Chosen To Compare Performance In Terms Of Load Consumption Profile, Photovoltaic (Pv) Utilization Efficiency, And Power Loss. These Algorithms Are Implemented To Find The Optimal Electric Load Consumption Profile With Presence Of Local Pv Generation. Furthermore, This Paper Aims To Present Two Approaches For Dsm For A Residential Home. These Approaches Can Be Used In Response To Changes In The Price Of Electricity Overtime And In The Presence Of Pv Generation To Minimize The Consumption Cost And Change The Consumption Pattern By Shifting Part Of The Load To Off-Peak Hours. In Addition, A Case Study Of A Single Household With A Single Line Is Considered Under The Assumptions Of Its Participation In A Dsm Program. Results Show That The Proposed Scheduling Algorithms Can Effectively Reflect And Affect User's Energy Consumption Behavior And Achieve Optimal Time Distribution Of Electricity Usage. Numerical Results Show The Impact Of Applying Dsm Algorithms On Total Power Losses Of The Feeder. The Proposed Algorithms Are Implemented Based On The Clonal Selection Algorithm (Csa).

Keywords: Demand Side Management, Distributed Generation, Rooftop Photovoltaic, Energy Utilization, Optimization Algorithms.


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Indra Ganesan College of Engineering
EG Valley, Madurai Main Road
Manikandam, Trichy-620 012

123. Design Of Ofdm Transceivers For Sdr In Altera Fpga

Mrs.S.Rahamathulsha, H.Sadarshan

Abstract:

Orthogonal Frequency Division Multiplexing (Ofdm) Is A Multicarrier Modulation Technique Which Divides The Available Spectrum Into Many Carriers. Ofdm Uses The Spectrum Efficiently As Compared To Fdma By Spacing The Channel Much Closer Together. Interference Between Closely Spaced Carriers Is Prevented As All The Sub-Carriers Are Orthogonal To Each Other. This Technique Has Found Enormous Applications In High Speed Mobile And Wireless Communication Systems. The Main Advantage Of Ofdm Is Their Robustness To Channel Fading In Wireless Environment. In This Paper The Fpga Implementation Of Optimized Ofdm System On Altera Quartus 3.0 Platform Using Vhdl (Very High Speed Integrated Circuit Hardware Descriptive Language) Will Be Illustrated. The System Performance Will Be Analyzed From Resource Summary And Simulation Waveform Of Individual Module, Serial To Parallel Converter, Parallel To Serial Converter, 8-Point Ifft (Inverse Fast Fourier Transform) And Fft (Fast Fourier Transform) Using Decimation-In-Frequency (Dif) Radix-2 Algorithm Will Be Highlighted In This Paper.

Keywords: Orthogonal Frequency Division Multiplexing, Interference, Fpga, Altera Quartus 3.0, Vhdl, Ifft, Fft

124. Design & Implementation Of Ai Based Home Security System Using Pi Camera With Raspberry Pi

Mrs.S.Rahamathulsha

Abstract:

We Present Details Of A Project To Build An Inexpensive Ai-Based Home Surveillance System Using Raspberry Pi. We Used A Raspberry Pi And A Usb Webcam To Record A Live Environment And Take Photos When Motion Is Detected. The Proposed Security System Allows Multiple Cameras And Users. Users Have Access To A Control Center Where They Can Login And Select The Appropriate Camera. The Website Interface Encrypts The User's Account Information And Stores Them In A Database. Further, An Improved Setup Using Pi-Based Camera Is Shown And Discussed. The Proposed System Uses Ibm's Internet Of Things Software Library To Implement Several Features Via Node-Red DQlows. Two DQlows Are Created. The First DQlow Triggers The Camera To Take Pictures When Motion Is Detected. The Picture Is Then Sent To Visual Recognition Node For Processing. If There Are People Detected, An Email Is Sent With The Link To The Streaming. If People Are Not Detected, The Picture Is Passed To The Visual Recognizer For Analysis. Then The Result Is Sent To A Template Node For Display As A Table

Keywords: Artificial Intelligence (Ai), Web, Surveillance, Raspberry Costing, Pi, Usb Webcam



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

125. Embedded Runtime Reconfigurable Devices For Wireless Sensor Networks Applications(Using Fpga)

Mrs.G.Keerthana,J.Jayashree,A.Shalee Vinodia

Abstract:

The Use Of Reconfigurable Hardware (Hw) Can Improve The Processing Performance Of Many Systems, Including Wireless Sensor Networks (Wsns). Moreover, Reconfigurable Devices Permit Remote And Runtime Hw Reconfiguration, Which Implies Benefits In Wsns Deployment And Maintainability And, Finally, Cost Reduction. In This Paper, Wsn Node Runtime Reconfigurability Is Tackled From Several Aspects: First, The Sensor Node Includes A Commercial Reconfigurable Device, A Field Programmable Gate Array (Fpga), That Permits To Take Advantage Of The Tools And Support Provided By The Industry, While Exploiting The Inherent Hardware Parallelism. Second, Two Software (Sw) And Hardware Reconfiguration Scenarios Are Defined Along With A Support Middleware. Third, In Order To Provide Runtime Reconfigurability To The Wsn Node, A Complete Runtime Reconfigurable System Has Been Defined And Designed For The Fpga Included In The Node. Fourth, The Hw Reconfiguration Cost Has Been Evaluated, As Well As The Cost Of Transmitting New Hw Configurations And Sw Programs Through The Network, Based On A Set Of Defined Parameters. Finally, The Feasibility Of The Runtime Reconfigurable System Has Been Demonstrated With A Use Case.

Keywords: Embedded Systems, Field Programmable Gate Arrays (Fpgas), Reconfigurable Architectures, Wireless Sensor Networks (Wsns).

126. Design And Development Of Low-Cost Water Quality Monitoring System Using Arduino

Mrs.G.Keerthana

Abstract:

Good Water Quality Is Essential For The Health Of Our Aquatic Ecosystems. Continuous Water Quality Monitoring Is An Important Tool For Catchment Management Authorities, Providing Real-Time Data For Environmental Protection And Tracking Pollution Sources; However, Continuous Water Quality Monitoring At High Temporal And Spatial Resolution Remains Prohibitively Expensive. An Affordable Wireless Aquatic Monitoring System Will Enable Cost-Effective Water Quality Data Collection, Assisting Catchment Managers To Maintain The Health Of Aquatic Ecosystems. In This Paper, A Low-Cost Wireless Water Physio-Chemistry Sensing System Is Presented. The Results Indicate That With Appropriate Calibration, A Reliable Monitoring System Can Be Established. This Will Allow Catchment Managers To Continuously Monitor The Quality Of The Water At Higher Spatial Resolution Than Has Previously Been Feasible, And To Maintain This Surveillance Over An Extended Period Of Time. In Addition, It Helps To Understand The Behavior Of Aquatic Animals Relative To Water Pollution Using Data Analysis.

Keywords: Catchment, Tracking Pollution, Wireless Aquatic Monitoring, Spatial

127. Vlsi Implementation Of Pipelined Parallel Fft Architecture Using Folding Transformation

Mrs.P.Jency Leena,N.Abhaya,M.Priyadharshini

Abstract:

In This Paper, A Novel Approach To Develop Parallel Pipelined Architectures For The Fast Fourier Transform (Fft) Is Presented. The Folding Transformation And Register Minimization Techniques Are Proposed For Designing Fft Architectures. Novel Parallel-Pipelined 128-Point Radix-2 4 Fft Architecture For The Computation Of Complex And Real Valued Fast Fourier Transform Are Derived. For Complex Valued Fast Fourier Transform (Cfft), The Proposed Architecture Takes Benefit Of Underutilized Hardware In The Serial Architecture To Derive L-Parallel Architectures Not Including The Increment Of Hardware Complexity By A Factor Of L. In Addition To, The New Parallelpipelined Architecture For The Computation Of Realvalued Fast Fourier Transform (Rff) Is Presented. To Reduce The Hardware Complexity, The Proposed Architecture Exploits Redundancy In The Computation Of Fft Samples. A Comparison Is Shown Between The Proposed Design And The Previous Architectures.

Keywords: Fast Fourier Transform (Fft), Folding, Radix-2 4 , Register Minimization.

128. Detection Of Eye Diseases Using Retinal Funds Images

Mrs.P.Jency Leena

Abstract:

Various Techniques To Diagnose Eye Diseases Such As Diabetic Retinopathy (Dr), Glaucoma (Glc), And Age-Related Macular Degeneration (Amd), Are Possible Through Deep Learning Algorithms. A Few Recent Studies Have Examined A Couple Of Major Diseases And Compared Them With Data From Healthy Subjects. However, Multiple Major Eye Diseases, Such As Dr, Glc, And Amd, Could Not Be Detected Simultaneously By Computer-Aided Systems To Date. There Were Just High-Performance-Outcome Researches On A Pair Of Healthy And Eye-Diseased Group, Besides Of Four Categories Of Fundus Image Classification. To Have A Better Knowledge Of Multi-Categorical Classification Of Fundus Photographs, We Used Optimal Residual Deep Neural Networks And Effective Image Preprocessing Techniques, Such As Shrinking The Region Of Interest, Iso-Luminance Plane Contrast-Limited Adaptive Histogram Equalization, And Data Augmentation. Applying Average Accuracies Of 91.16% And 85.79%, Respectively. The Specificities For Images From This Study Presents A Possible Occurrence Of A Multi-Categorical Deep Neural Network Technique That Can Be Deemed As A Successful Pilot Study Of Classification For The Three Most-Common Eye Diseases And Can Be Used For Future Assistive Devices In Computer- Aided Clinical Applications.

Keywords: Multi-Categorical Classification; Deep Neural Networks; Glaucoma; Age-Related Macular Degeneration; Diabetic Retinopathy


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Indra Genesis College of Engineering
IG Valley, Madurai Main R.
Manikandan, Trichy-620 012

129. Fpga Implementation Of Secure Dat Communication Using Advanced Emryption Standard Algorithm

Dr.R.Rajamohamed ,P.Sarasya

Abstract:

Cryptography Is An Art Of Protecting Transmitted Information From Unauthorized Interception Or Tampering. There Are Various Types Of Cryptography Methods Namely Hash Function, Secret Key Cryptography And Public Key Cryptography. Aes Is An Advanced Encryption Standard Announced By National Institute Of Standard Technology In The Year 1997. This Paper Discusses The Fpga Implementation Of The Aes Algorithm. The Implementation Is Done Using Model Sim, Altera Quartus Ii And Tested Using Avex Ii On Sinfra Uvsl Board.

Keywords: Cryptography, Fpga, Galois Theory

130. Fuzzy Logic Based Dc-Dc Converter Implementing With Pv Module – C2s Converter

Dr.R.Rajamohamed

Abstract:

Increasing In Power Demand And Shortage Of Conventional Energy Sources, Researchers Are Focused On Renewable Energy. The Proposed Solar Power Generation Circuit Consists Of Solar Array, Boost Converter And Boost Inverter. Low Voltage, Of Photovoltaic Array, Is Boosted Using Dc-Dc Boost Converter To Charge The Battery And Boost Inverter Convert This Battery Voltage To High Quality Sinusoidal Ac Voltage. The Output Of Solar Power Fed From Boost Inverter Feed To Autonomous Load Without Any Intermediate Conversion Stage And A Filter. For Boost Converter Operation Duty Cycle Is Varied Through Fuzzy Logic Controller And Pwm Block To Regulate The Converter Output Voltage. The Ac Voltage Total Harmonic Distortion (Thd) Obtained Using This Configuration Is Quite Acceptable. The Proposed Power Generation System Has Several Desirable Features Such As Low Cost And Compact Size As Number Of Switches Used, Are Limited To Four As Against Six Switches Used In Classical Two-Stage Inverters.

Keywords: Boost Converter, Boost Inverter, Fuzzy Logic Controller, Solar Photovoltaic, Total Harmonic Distortion.


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Indra Ganesan College of Engineering
TG Valley, Adakurai Malai P.O.
Manikandam, Trichy-620 012

131. Optimal Social Network Defense Against Sybil Attacks

Dr.R.Rajamohamed

Abstract:

Decentralized Distributed Systems Such As Peer-To-Peer Systems Are Particularly Vulnerable To Sybil Attacks, Where A Malicious User Pretends To Have Multiple Identities (Called Sybil Nodes). Without A Trusted Central Authority, Defending Against Sybil Attacks Is Quite Challenging. Among The Small Number Of Decentralized Approaches, Our Recent Sybil Guard Protocol Leverages A Key Insight On Social Networks To Bind The Number Of Sybil Nodes Accepted. Although Its Direction Is Promising, Sybil Guard Can Allow A Large Number Of Sybil Nodes To Be Accepted. Furthermore, Sybil Guard Assumes That Social Networks Are Fast Mixing, Which Has Never Been Confirmed In The Real World. This Paper Presents The Novel Sybil Limit Protocol That Leverages The Same Insight As Sybil Guard But Offers Dramatically Improved And Near-Optimal Guarantees. The Number Of Sybil Nodes Accepted Is Reduced By A Factor Of $\Theta(\sqrt{N})$, Or Around 200 Times In Our Experiments For A Million-Node System. We Further Prove That Sybil Limit's Guarantee Is At Most A Log N Factor Away From Optimal. When Considering Approaches Based On Fast-Mixing Social Networks. Finally, Based On Three Large-Scale Real-World Social Networks, We Provide The First Evidence That Real-World Social Networks Are Indeed Fast Mixing. This Validates The Fundamental Assumption Behind Sybil Limit's And Sybil Guard's Approach.

Keywords: Sybil, Node, Large-Scale

132. Data Encoding Techniques For Low Power Data Buses

Mrs.M.Nandhini, R.Seriyakala

Abstract:

As Technology Shrinks, The Power Dissipated By The Links Of A Network-On-Chip (Noc) Starts To Compete With The Power Dissipated By The Other Elements Of The Communication Subsystem, Namely, The Routers And The Network Interfaces (Nis).In This Project We Present A Set Of Data Encoding Schemes Aimed At Reducing The Power Dissipated By The Links Of An Noc. The Proposed Schemes Are General And Transparent With Respect To The Underlying Noc Fabric (I.E., Their Application Does Not Require Any Modification Of The Routers And Link Architecture).The Proposed Encoder Will Be Coded In Hdl And Simulated Using Xilinx 12.1.

Keywords: Coupling Switching Activity, Data Encoding, Network Interface (Ni), Network-On-Chip (Noc), System On Chip (Soc).

133. Twitter Sentiment To Detect Hate Speech Using Machine Learning Algorithm

Mrs.M.Nandhini

Abstract:

Hate Speech Has Become A Significant Problem Today, With The Potential To Harm Individuals And Communities. One Potential Solution To This Problem Is To Use Machine Learning Algorithms To Automatically Detect And Flag Hate Speech In Text-Based Data. The Process Of Hate Speech Detection Using Machine Learning Involves Training A Model On A Dataset Of Labelled Examples, Where Each Example Is Labelled As Hate Speech Or Non-Hate Speech. Various Features Such As The Use Of Certain Words Or Phrases, Grammar, And Syntax Are Extracted From The Text Data, And The Model Learns To Distinguish Between Hate Speech And Non-Hate Speech Based On These Features. The Trained Model Can Then Be Used To Classify New Text Data As Hate Speech Or Non-Hate Speech. However, It Is Important To Note That Hate Speech Detection Using Machine Learning Is Not Perfect And Can Be Affected By Biases In The Training Data Or In The Algorithm Itself. Ongoing Research Is Focused On Improving The Accuracy And Fairness Of Hate Speech Detection Algorithms. Overall, Hate Speech Detection Using Machine Learning Has The Potential To Be A Valuable Tool In The Fight Against Hate Speech, But Careful Attention Must Be Paid To Its Limitations And Biases.

Keywords: Hate Speech, Machine Learning, Dataset, Text Analysis

134. An Evolution Of Novel Developments In Lower- Limb Prosthetics

Mrs.M.Nandhini

Abstract:

In This Paper, The Rise And Growth Of Prosthetic Leg In The Field Of biomedical Engineering Is Made. In Such Interpretation A Thorough Assessment Of Various Author's View Are Discussed. To The Efforts Of These Three-Professional Group-Medicine, Therapy And Limb Making -There Have Been Added In More Recent Rehabilitation Programs The Effort Of The Social Worker, Psychologist, Psychiatrist And Of The Counsellor In Vocational Guidance, Every Year The Complexity Of Designing The Prosthetic Is Considerably Reduces Owing To The Utilization Of Latest Signal Processing Techniques And Algorithms. With Reduced Complexity The Cost Of Manufacturing Also Decreases Making The Prosthetic Hand Affordable For Everyone. In Recent Years Technical Innovations Have Combined To Make Artificial Limbs Much More Comfortable, Efficient, And Life Like Than Earlier Versions. Future Developments Are Probably Going To Rely Upon The Collaboration Between Three Strong Powers — Handicapped People's Requests, Propels In A Medical Procedure And Designing, And Medical Services Subsidizing Sufficient To Support Improvement And Use Of Mechanical Arrangements.

Keywords: Lower Limb Amputee, Prosthetic Leg

135. Low Complexity Design Of Variable Digital Filter With Variable Frequency Response Using Cdm

Mrs.D.Kokila, S.Gayathri

Abstract:

The Multiplication Of A Variable By Multiple Constants, I.E., The Multiple Constant Multiplications (Mcm), Has Been A Central Operation And Performance Bottleneck In Many Applications, Such As Finite Impulse Response (Fir) Filters And Linear Transforms. Although Low-Complexity High-Performance Multiplier Architectures Have Been Proposed For The Constant Multiplications, The Area And Delay Optimization Of The Mcm Operation Has Often Been Accomplished By Synthesizing The Constant Multiplications Using Only Addition/Subtraction And Shifting Operations In The Shift-Adds Architecture. To Obtain Further Reductions In Area, Delay, And Power Consumption In The Shift-Adds Design Of The Mcm Operation, Efficient Highlevel Algorithms Have Also Been Proposed. In This Paper, We Introduce A Computer-Aided Design Tool For The Synthesis Of Low-Complexity Digital Fir Filters That Includes Both High And Low Level Synthesis Phases. In The High-Level Synthesis Phase, The Mcm Operation Is Optimized In Terms Of Highlevel Of The Mcm Operation In Shifts-Add Architecture With The Use Of High-Level Algorithms Achieves Significant Area Improvements On Filter Implementations With Respect To Designs Whose Mcm Operations Are Implemented In Array Multiplier Architecture.

Keywords: Multiple Constant Multiplications, High-Level Synthesis, Multiplier Less Filter Design, Array Multipliers, Low-Level Synthesis.

136. Auto-Discover And Finding Position Of Targets In Underwater Acoustic Networks Using A Machine Learning Techniques

Mrs.D.Kokila

Abstract:

This Paper Provides A Study Of The Latest Target (Object) Detection Algorithms For Underwater Wireless Sensor Networks (Uwans). To Ensure Selection Of The Latest And State-Of-The-Art Algorithms, Only Algorithms Developed In The Last Seven Years Are Taken Into Account That Are Not Entirely Addressed By The Existing Surveys. These Algorithms Are Classified Based On Their Architecture And Methodologies Of Operation And Their Applications Are Described That Are Helpful In Their Selection In A Diverse Set Of Applications. The Merits And Demerits Of The Algorithms Are Also Addressed That Are Helpful To Improve Their Performance In Future Investigation. Moreover, A Comparative Analysis Of The Described Algorithms Is Also Given That Further A Thorough Analysis Of The Underwater Target Detection Algorithms, Their Feasibility In Various Applications With Future Challenges And Defined Strategies For Further Investigation.

Keywords: Underwater Target Detection, Deep Learning, Underwater Object Detection, Yolo, Convolution Neural Networks, Convnets.



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**Indra Ganesan College of Engineering
16 Vellore, Madurai Main Road
Manikambam, Trichy-620 012**

137. Failure Analysis Of Transformers Under Impulse Test

Dr.G. Malathy ¹ Attchaya A.K ², Benazir .M ³: Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Transformers Are The Most Critical And Costly Components In Ac Power Systems. Insulation Is The Weakest Link In Transformers, And The Design And Quality Of A Transformer's Insulation System Shall Be Confirmed By Performing Dielectric Tests According To National Or International Standards. The Impulse Test Is More Critical Among The Dielectric Tests, As It Verifies The Integrity Of The Whole Insulation System Of The Transformer. However, Concluding The Impulse Test Result Is Difficult When Minor Discrepancies Exist In The Earth's Current Waveforms.

This Paper Presents Two Such Case Studies With Distribution Class Transformers.

According To Standard, Impulse Voltage And Neutral Current Should Be Compared Visually After Each Test. During Visual Comparison, If No Deviation In The Shape Of Impulse Voltage And Neutral Current Waveform Is Observed After Each Shot, Transformer Is Considered To Have Conformed To The Requirement Of Standard.

Keywords: Transformer, Impulse Voltage

138. Cyber Security For Power Distribution System

Dr.G. Malathy ¹ Hantharan B ², Khajamoinudeen S ³: Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Presents The Application Of Cyber Security To The Operation And Control Of Distributed Electric Power Systems. In Particular, The Paper Emphasizes The Role Of Cyber Security In The Operation Of Micro Grids And Analyzes The Dependencies Of Micro Grid Control And Operation On Information And Communication Technologies For Cyber Security. The Paper Discusses Common Cyber Vulnerabilities In Distributed Electric Power Systems And Presents The Implications Of Cyber Incidents On Physical Processes In Micro Grids. The Paper Examines The Impacts Of Potential Risks Attributed To Cyber Attacks On Micro Grids And Presents The Affordable Technologies For Mitigating Such Risks. In Addition, The Paper Presents A Minimax-Regret Approach For Minimizing The Impending Risks In Managing Micro Grids. The Paper Also Presents The Opportunities Provided It Is Concluded That Cyber Security Could Play A Significant Role In Managing Micro Grid Operations As Micro Grids Strive For A Higher Degree Of Resilience As They Supply Power Services To Customers.

Keyword: Cyber Security, Micro Grids.

139. A Review On Role Of Power Electronics In Electric Vehicles: State-Of-The-Art And Future Trends

Dr.G. Malathy¹ Iswarya K², Kiruthika B³ Professor, ^{2,3} UG Students

^{1,2,3} Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

In The Current World Scenario Of Increasing Environmental Issues And Oil Prices, Development Of Electric Vehicles (EV) Have Gained Considerable Importance And Attention. Electrifying The Conventional Transportation System Can Reduce The Use Of Depleting Fossil Fuels And Can Lead To Better Performance And Reduced Pollution. Power Electronics Will Play A Key Role In Making Highly Efficient Electric Vehicles Which Are Low In Emissions And Having Better Fuel Economy. This Paper Presents A Review Of The State-Of-The-Art Power Electronics Technology In Electric Vehicles In Detail Focusing Both Semi-Conductor Devices As Well As Material Technology. Also It Discusses About The Various Power Electronics Systems Placed In An Electric Vehicle. The Paper Concludes With A Discussion Of Expected Future Trends In Power Electronics Technology That Will Improve The Markets For Electric Vehicles In Coming Years.

Keywords: Electric Vehicle, Power Converters, Lithium Battery

140. Insulation Coordination Of A UHV Ac Transmission Line Considering The Switching Overvoltage Wave Shape

Mr.O.Karthikeyan¹ Vinoth R², Parkavi S³ Associate Professor, ^{2,3} UG Students

^{1,2,3} Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Presents The Determination Of Insulation Coordination For Phase-To-Ground Switching Over Voltages By A Practical Method In Which The Effect Of The Switching Overvoltage Wave Shape, Especially The Impact Of The Time To Crest On Insulation Strength Is Considered. This Work Is Carried Out On The World's First 1200 Kv Transmission Line By Modelling It In Pscad.

Keywords: Insulation-Coordination, Line Energization, Line Re-Energization, SSfor, UHV Ac Transmission


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Indra Ganesan College of Engineering,
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

141. Nodal Monitoring In Medium Voltage Distribution Grid Using Smart Sensored Cable Termination

Mr.O.Karthikeyan ¹ Praveenkumar M ², Niroshini ³ Associate Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract

Tata Power-Dcl Worked In Collaboration With 3m On A Pilot Project For Making The Medium Voltage Distribution Network Smart And Efficient. This Project Aimed At Enabling Real-Time Monitoring Of Electrical Parameters Such As Voltage, Current And Reactive-Power-Flow. While Enabling These Features, It Was Vital To Make The Solution Compact And Retrofit-To-Existing Infrastructure For Saving Cost In Terms Of Reduced Equipment's Footprint. In This Pilot Project, Electrical Parameters And Direction Of Power Flow Were Accurately Captured Using Sensor-Based Technology. Captured Parameters And Corresponding Benefits Are Analyzed In Detail In This Paper. Further, The Availability Of Real-Time Captured Data Can Be Potentially Used Through Analytical Tools For Enabling Many Features Such As Predictive Maintenance And Identifying Faulted Segments In Underground Cabling Networks. Power-Flow-Direction Can Potentially Be Used For Advanced Protection Coordination In The Looped Distribution Network. Thus, Enabling Reliable Integration Of Existing Grid With Distributed Energy Generation Source.

Keywords: Voltage Distribution Grid, Voltage, Current And Reactive-Power-Flow.

142. Short Circuit Modeling And Analysis Of Pv Inverters In Large Solar Farms

Mr.O.Karthikeyan ¹ Merlin Reeta P ², Lourdhu Mary D ³ Associate Professor, ^{2,3} Ug Students
^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

The Short Circuit Behavior Of Solar Farms Is Different From Conventional Generating Stations. These Generating Resources Are Static In Nature And Have A Rich Power Electronic Interface With A Grid, Limiting These Solar Farms' Short Circuit Capabilities. The Solar Inverter Voltage Versus Short Circuit Current Characteristics Is Modeled To Supply The Fault Current Within Inverter Designed Ratings. In This Research Paper, A Large Number Of Solar Power Investors Are Grouped To Pool Their Power Into The Grid. Short Circuit Studies Are Carried Out For A 500 Mw Solar Farm With String Inverters Rating Of 3125 Kw Per Iec 60909. The Protective Relaying Coordination Is Performed As Per Iec C37.90 And Iec 60255-1 Relaying Standard.

Keywords: Solar, On Grid, Inverter.



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Indra Ganesan College of Engineering
IS Valley, Madurai Main Road
Manikandam, Trichy-620 012

143. Design Review Of Gas Insulated And Hybrid Gas Insulated Switchgear

Mrs.R.Megaladevi ¹ Tamilarasan M ², Reshmi D ^{2,3} Associate Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

The Paper Highlights Overall Process Of Design Review, The Challenges Faced During The Process And Points Observed To Capture In Revised Technical Specification
Global Industrialization And Increasing Population Results In Rise Of Demand For Quality And Uninterrupted Power Supply. For This, Substation Equipment Has To Be Made More Efficient And Reliable To Cope Up With Increasing Demand. But As We Know With Shortage Of Geographical Area Needs Creation Of Compact But Efficient Power Supply Medium. Gas/Hybrid Gas Insulated Substation Is The Right Solution To Such Problems. Getco Have Adopted Unique Design Review Methodology For Gas And Hybrid Gas Insulated Switchgear Which Comprises Design Verification Of Successful Bidders (Drawings, Type Tests/ Calculations, Gtp/Technical Data, Mqp/Tqp) And Inspection At Oem Factory

Keywords: Gas Insulated, Manufacturing Quality Plan (Mqp), Radio Interference Voltage (Riv), Switch Gear, Uhf Sensors.

144. Performance Evaluation Of Circuit Breakers Under Asymmetrical Fault Condition

Mrs.R.Megaladevi ¹ Deepika G ², Mano K ^{2,3} Associate Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Among Several Switchgear Equipment Largely Used In High Voltage Transmission Systems, Which Change The Grid Configuration, Isolates Faulty Parts From The Grid, Etc. Circuit Breaker Is A Remarkable One. For The Reason To Analyse The Interrupting Capabilities. A Circuit Breaker Has To Undergo Various Test Duties According To Iec 62271-100 Among Which Test Duty T100a Is Considered As The Most Onerous One. During This Test The Breaker Has To Prove Its Interrupting Capability During Maximum Arc Energy Condition. This Article Focuses On The Performance Evaluation Of Circuit Breaker Under Asymmetric Condition Test Duty T100a.

Keyword: Transmission Systems, Grid Configuration, Circuit Breaker



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

145. Application Of Line Surge Arresters For Switching Over-Voltages In Uhv Transmission Systems

Mrs.R.Megaladevi ¹ Atchaya A K ², Benazir M ³ Associate Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Switching Overvoltage's (Sov) Are Critical For Systems Operating At Ultra High Voltage (Uhv) Level. Pre-Insertion Resistors (Pir) Are Usually Used To Suppress The Switching Overvoltage In Uhv Systems. Pir Are Effective In Suppressing Sov's, But Their Shortcomings Prompt Utilities To Explore Other Protection Schemes. In This Paper, The Application Of Line Surge Arresters (Lsa) To Suppress Switching Over Voltages Is Studied. The Statistical Overvoltage Analysis Is Carried Out For A Typical Uhv System To Compute The Highest Overvoltage Magnitudes. The Location And Number Of Lsa's To Be Placed Along The Transmission Line Are Decided Based On The Overvoltage Profile Along The Line, Observed During Switching Operations. The Switching Impulse Withstand Values Of The Equipment Are Calculated For Proposed Non-Gapped Line Arrester Arrangements And Also Compared With The Withstand Values For Conventional System. The Energy Absorbed Using Electro-Magnetic Transient Program For The 1200 Kv Indian Transmission System. The Results Of This Study Show That The Lsa's Can Be Considered An Alternate Protection Measure To Suppress Sov's In A Uhv System.

Keywords: Co-Ordinations, Emtp, Insulation, Switching Over-Voltage, Transient, Ultra High Voltage

146. Multi Source Bidirectional Dc/Dc Converter By Using Pv-Wind-Battery Based Integration For Domestic Applications

Mr.S.Vijai ¹, Rajasekar.N V ², Subha T ³ Assistant Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Renewable Energy Sources Are Becoming More Attractive Due To Their Eco-Friendly Nature. As Conventional Energy Sources Are Polluting Environment, It Has Become Imperative To Shift To Renewable Energies. Pv And Wind Are Popular Renewable Sources Because Of Their Abundance Availability And Cost Effectiveness. But, Renewable Do Not Being Able To Supply Continuous Power Owe To Intermittency Of Renewable Sources. This Issue Can Be Addressed By Efficiently Integrating Battery With Renewable Sources. The Usual Approach For This Is To Use Dedicated Single- Input Converters One For Each Source. In This, The Sources Are Connected To A Common Dc Bus. The Special Converters Which Are Used For The Integration Purpose Would Not Work Properly Due To Renewable Intermittency. The Efficiency Of Integrated System Would Be Decreased Due To Multiple Power Conversion Stages. So, The Major Challenge Is To Decrease Power Conversion Stages And Hence Losses Of Hybrid System. A Control Technique Has Been Proposed Array Through Adjusting The Duty Cycle Ratios Of Switches Used In Converters Under Varying Climatic Conditions.

Keyword: Bidirectional Dc/Dc Converter, Mppt,

147. Health Monitoring Of Induction Motor Using Thermal Images

Mr.S.Vijai¹ , Sanjeev Kumar R.², Revathi P³ Assistant Professor, ^{2,3}Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Deals With A System Which Monitors The Health Condition Of A Three Phase Induction Motor By Using Infrared Thermal Images. Here Two Systems, Real Time And Off Line, Are Proposed To Monitor The Temperature Variations And Analyze The Hot Regions Beyond The Rated Temperature In The Three Phase Induction Motor Using Infrared Thermograms. This System Helps To Monitor The Variation Of Temperature At The Different Parts Of The Induction Motor. Abnormal Temperature Rise In Any Parts Indicates The Faults. This Technique Helps To Prevent The Parts Of Induction Motor Before Any Catastrophe Would Happen In The Future. The Color Based Segmentation Technique Is Used To Identify Abnormal Hot Regions In The Thermograms Of Three Phase Induction Motor. A Changing Red Color Intensity Algorithm Is Also Implemented To Recognize The Hot Spots And Also The Change In Hotness In A Particular Area Of Induction Motor To Declare The Health Of That Particular Area. Similarly The Conditions Of Various Areas In The Machine All Together Monitor The Overall Health Of The Induction Motor.

Keywords: Induction Motor, Health Monitoring, Thermograms

148. Hybrid Scada Security Test Bed As A Service

Mr.S.Vijai¹ , Hariharan B.², Khajamoinudeen S³ Assistant Professor, ^{2,3}Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Supervisory Control And Data Acquisition (Scada) Systems Are Deployed For Control And Management Of Critical Infrastructures (Power, Oil, Gas, Water, Etc.), Industries (Manufacturing, Production, Etc.) And Public Facilities (Airport, Ships, Transport Etc.). With The Evolution Of The Technologies In Communication, Scada Systems Are Connected To Different Networks Using Heterogeneous Communication Infrastructure. Thus, Scada Systems Became Vulnerable To Threats Of Connected Systems Along With Its Legacy Threats. A Security Assessment Is Required To Understand The Security Posture Of The System. However, It Is Not Possible To Simulate And Analyze Attacks On A Real Scada System. Hence, A Testbed Is Needed To Conduct Any Security Assessment By Modeling The Architecture On The Scada Testbed.

Keywords: Hybrid Testbed, Scada Security, Simulation Of Attacks, Spade, Testbed, Testbed As A Service

149. An Electric Braking Scheme For A Blde Motor Driven Electric Vehicle

Mr.S.Ponmathi Rajithkumar ¹, Vinoth R ², Parkavi S ³ Assistant Professor, ^{2,3} Ug Students
^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Proposes An Electric Braking Scheme For A Brushless Dc Motor Driven Electric Vehicle. This Electric Braking Scheme Is Developed By Combining Various Regenerative Braking Methods And Plugging. At First, The Speed Profile And Battery Current Profiles Of Each Braking Methods Are Studied During Braking. It Is Observed That The Speed Reduction By Plugging Is Very Fast And By Single And Two Switch Method Is Slow, While Regeneration Occurs Only In Single And Two Switch Methods. Based On These Results, A New Braking Scheme Is Developed By Combining These Braking Methods And It Is Switched Among Them Based On The Brake Force Applied By The Driver. Simulation Results Are Presented To Validate The Proposed Technique.

Keywords: Blde Motor, Electric Vehicle, Electric Braking, Regenerative Braking

150. Arc Fault Protection And Detection

Mr.S.Ponmathi Rajithkumar ¹, Praveen Kumar M ², Hari Gowtham M ³ Assistant Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Arc Faults In Electric Circuits Are Recognized As An Important Cause Of Fire. The First Arc Fault Circuit Interrupter (AfcI) Has Been Patented In 1980 In The United States. AfcI Is A Device Designed To Detect Electric Arc Faults Which Was Prescribed For Use By The National Electric Code (Nec, Us Wiring Regulation) In January 2008. The Nec Describes It As 'A Device Intended To Provide Protection From The Effects Of Arc Faults By Recognizing Characteristics Unique To Arcing And By Functioning To De-Energize The Circuit When An Arc Fault Is Detected'. At The Beginning Of 2012 The Arc Fault Detection Device (Afd) Began To Be Introduced Into The Iec World, Culminating In The Publication Of Technical Product Standards Iec 62606 1 In August 2013, Which Sets Out The Requirements For Arc Fault Protection Devices. This Paper Underlines The Importance Of Preventing Electrical Fires By Using The New Technology Of Afd's, Which Largely Extend The Protection Offered By Traditional Circuit Breakers Like Mch's And Rod's. Product Standard Iec 62606 And Functional Tests Are Reviewed, The Functioning Of Afd's Is Explained And A Method To Design Robust Algorithms For Arc Fault Detection Is Proposed.

Keywords: Arc Faults, Arc Fault Detection Device (Afd), Mch, Rod



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

151. Electric Bike-Advantages And Challenges: A Review

Mr.S.Ponmathi Rajithkumar ¹, Niroshini ², Nithing A ^{2,3} Assistant Professor, ^{2,3} Ug Students
123Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

In Daily Life Travelling Becomes Vital For Human Being. Time Taken For Travelling Should Be Less; It Should Be Economical And Easily Available. The Growing Use Of Travelling Vehicles Has Increased The Problem Of Air Pollution, Global Warming Issue And Increased Use Of Petroleum. The Human Awareness For Energetic And Environmental Problems Is Encouraging The Research In Alternative Solutions For The Automotive Field, As Multiple Fuelling, Hybridization And Electrification. Electric Bike Can Be Considered Good Alternative For Both Personal And Good Transportation Especially For Small And Medium Distances. Electric Bike Is Normally Powered By Rechargeable Battery And Their Practical Performance Is Influenced By Motor Power, Battery Capacity, Road Type, Operation Weight, Control Etc. Electric Bike Can Be Classified Into Two Main Categories: First One Is Pure Electric Bike Which Integrates Electric Motor Into Bicycle Frame Or Wheels And Driven By Motor Force Just Using A Handle Bar Throttle. Second One Is Human-Electric Hybrid Bicycle That Supports The Rider With Electric Power Only When The Rider Is Pedalling. This Paper Focus On Concept Of Electric Vehicle, Major Constructional Parts, Manufacturing Companies, Market Survey, Advantages, Problems, Government Initiatives In India, Future Scope Etc.

Keywords: Electric Bike, Power Converters.

152. Loss Analysis Of Conversion From Low Voltage Distribution System To High Voltage Distribution System

Mr.D.Praveen Sangeeth Kumar ¹, Merlin Reena P ², Lourdu Mary D ^{2,3} Assistant Professor, ^{2,3} Ug Students

123Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Presents The Analysis Of Losses For Conversion From Low Voltage Distribution System To High Voltage Distribution System Based On Simulation Of Typical Power Distribution Network In Agriculture Feeder. Conversion From Lvds To Hvds Involves Removal Of Existing Distribution Transformer (100kva/63kva) And Installation Of Distribution Transformer (25kva) Near To The Consumer Load And Conversion Of The Existing Low Voltage (0.433 Kv) Line Into High Voltage (11kv) Line.

Keywords: High Voltage Distribution System (Hvds), Irrigation Pump (Ip), Low Voltage Distribution System (Lvds).



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Indra Ganesan College of Engineering
10 Vaidy, Madurai Main Road
Manikandam, Trichy-620 012

153. Sensorless Control Of A High-Speed Bldc Motor Using Commutation Timer

Mr.D.Praveen Sangeeth Kumar ¹, Benazir M², Rathina Raj R³ Assistant Professor, 2,3 UG Students
123 Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Presents An Improved Sensorless Control Of A High-Speed Bldc (Brushless Direct Current) Motor For A Cordless Vacuum Cleaner. In Conventional Sensorless Control, The Error Increases Proportionally With Speed Due To The Short Conduction Period And Increased Fundamental Current Frequency. Moreover, The Varying Conduction Period Generates Additional Torque And Speed Ripples. In This Paper, A Continuous Rotor Position Sensing Method Utilizing Voltage Derived From Detected Pole Voltage Is Proposed. The Commutation Position Is Determined Based On The Position Duration Between The Estimated Rotor Position And The Next Commutation Point. An Additional Timer Is Used To Determine The Commutation Point Independently Based On The Position Error For Accurate Commutation. The Control For Speed, Current, And Rotor Position Estimation Is Synchronized To The Pwm Switching Period And Implemented Periodically. The Proposed Method Ensures Balanced Conduction Periods At Any Speed Range And Adopts H-Pwm And L-Pwm Method To Minimize Current Ripple Caused By Pwm Switching. The Effectiveness Of The Proposed High-Speed Sensorless Control Scheme Is Verified Through Experiments Using A Cordless Vacuum Cleaner Bldc Motor Operating At 40,000 To 100,000 R/Min.

Keywords: Bldc Motor, Pwm

154. Evaluation Algorithm For Hosting Capacity Of Pv System Using Ldc (Line Drop Compensation) Method Of Svr In Distribution Systems

Mr.D.Praveen Sangeeth Kumar ¹, Tamilarasan M², Reshmi D³ Assistant Professor, 2,3 UG Students
123 Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Deals With An Evaluation Algorithm Of The Hosting Capacity For Pv System Based On The Ldc (Line Drop Compensation) Method Of Svr (Step Voltage Regulator) In Order To Improve The Hosting Capacity When Large-Scaled Pv Systems Are Installed In Distribution System. Specifically, Optimal Ldc Setting Values Are Obtained By Calculation Algorithm Of Ldc Setting Values For Svr Using The Least-Squares Method That Minimizes The Error For The Entire Time Interval Based On The Distribution Characteristics Of Upper And Lower Limits For The Sending Voltage Of Svr Considering The Reverse Power Flow By Pv Systems. And Also, This Paper Performs A Modeling Of Complex Distribution System Which Is Composed Of Large-Scaled Pv System And Svr With Ldc Method By Using Pscad/Emtdc S/W. From The Simulation Results, It Is Confirmed That The Proposed Algorithm And Modeling Is A Useful And Practical Tool To Improve The Hosting Capacity Of Pv System Because Customer Voltages Are Maintained Within The Allowable Voltage Limits

Keywords: Pv System, Pscad, Svr

155. A Sepic Flyback Dc-Dc Converter With Gan (Gallium Nitride) Switching Device

Mr. A. Richards Rethinasamy ¹, Iswarya K. ², Kiruthika B. ³ Assistant Professor, ^{2,3} UG Students

^{1,2,3} Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

A High-Efficiency Interleaved Dc-Dc Converter Based On Sepic Topology Is Developed In The Paper, Which Can Be Used For Micro Photovoltaic Inverter. Two Flyback Transformers In Parallel Connection Can Be Controlled With Single Gallium Nitride (Gan) Switching Power Device. This Is Especially Useful For The Cost-Down Solution For High Power Situation With Multiple Flyback Transformers In Parallel Connection. Using The Single Gan Switching Device For Double Flyback Transformers Can Suppress The Output Voltage Ripple, While Reduce The Cost. In The Paper, The Detailed Theoretical Derivation On The Novel Topology Is Conducted. The Simulation On The Converter Is Carried Out To Verify The Theoretical Analysis. Finally, The Topology Is Implemented On Pcb Board, Experimentally Showing The Feasibility Of The Proposed Converter.

Keywords: Dc-Dc Converter, Sepic Converter, Transformer

156. Performance Analysis And Comparison For Various Excitation Source Salient Rotor With Modular Rotor Permanent Magnet Of Flux Switching Machine

Mr. A. Richards Rethinasamy ¹, Tamilarasan M. ², Kiruthika B. ³ Assistant Professor, ^{2,3} UG Students ^{1,2,3} Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Due To The Large Power/Torque Density And High Efficiency Of Permanent Magnet Flux Switching Magnet (Fspm) Are Suitable For Driving Electric Vehicles And Hybrid Electric Vehicles. In This Paper, Flux Switching Permanent Magnet Machine (Prfsm), Field Excitation Flux Switching Machine (Fefsm) And Hybrid Excitation Flux Switching Machine (Hefsm) With Salient Rotor Topology Is Compared With Modular Rotor Permanent Magnet Flux Switching Machine. On The Condition Of The Same Outer Diameters, The Electromagnetic Performances Of The Machines Are Analyzed And Compared By The Two-Dimensional (2d) Finite Element Method Including The Flux Density, Back Electromotive Force (Emf), Cogging Torque, Electromagnetic Torque, And Power. The Finite Element Results Show That The Modular Rotor Permanent Magnet Flux Switching Machine Has Greater Torque Than Salient Rotor Fefsm, Hefsm, And Prfsm At The Rated Load With Significantly Less Weight Than The Others.

Keywords: Salient Rotor, 2d Finite Element Method.

157. Ac/Dc Side Split Capacitor Power Decoupling Circuit

Mr.A.Richards Rethinasamy ¹, Rajasekar.N², Subha T³

¹ Assistant Professor, ^{2, 3} UG Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Single-Phase Inverters Have A Wide Range Of Applications In Many Fields, But There Are Inherent Double Frequency Problems, And Double Frequency Fluctuations Can Easily Cause System Instability. This Paper Proposes A Mid-Point Common-Mode Injection Power Decoupling Circuit. The Advantage Of This Topology Is That There Are No Additional Switching Devices And Only The Original Dc Side Support Capacitors And Filter Capacitors Of The H-Bridge Inverter Can Be Used To Buffer The Double Frequency Power. The Half-Bridge Structure Of This Topology Enables The Ac Side Capacitors To Operate Positively And Negatively, Which Can Reduce The Selection Of The Withstand Voltage Of The Decoupling Capacitor

Keywords: Split Capacitor, Decoupling Circuit, Single Phase Inverter

158. Research On Control Strategy Of Hybrid Energy Storage System With Optical Storage Microgrid

Mr.P.Nirmalkumar ¹, Vinoth R ², Parkavi S ³

¹ Assistant Professor, ^{2,3} UG Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

With The Aim Of Improving The Robustness Of The Hybrid Energy Storage System(Hess) And Avoiding Overcharging And Reasonably Managing State Of Charge (Soc), This Paper Proposed A Hess Control Strategy Employing Integral BackStepping (Ibs) Method Based On Soc. Firstly, On The Basis Of The Hybrid Energy Storage Control Strategy Of Conventional Filtering Technology (Ft), The Current Inner Loop Pi Controller Was Changed Into An Controller Employing Ibs Method To Improve The Robustness Shown By The Energy Storage System (Ess) Against System Parameter Perturbation Or External Disturbance. The Current Controller Of The Hess Employing Inner Loop Integral Back Stepping Method Was Designed And The Lyapunov Stability Was Proven. Secondly, To Avoid Overcharging And Over- Discharging Of The Hess And To Reasonably Manage Soc, An Energy Management Strategy Based On Soc Was Proposed To Generate The Current Reference Value Of The Inner Loop Controller Employing Integral Back Stepping Method, And The Energy Management Strategy Based On Soc Was Designed As Well. Finally, The Simulation Model Of The Hess Employing Integrated Back Stepping Method Based On Soc Was Established, And The Feasibility Of This Method Was Verified Through Simulation. It Was Shown By The Results The Meanwhile, The Upper And Lower Limits Of Soc Of The Ess Are Supposed To Be Managed To Avoid Overcharging And Over-Discharging And To Extend The Life Of The Ess.

Keywords: Microgrid, Soc, Pi Controller



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IG Valley, Madurai Main Road

Manikandam, Trichy-620 012

159. Assessment Of Flicker Emission In A Grid Connected Wind Farms

Mr.P.Nirmalkumar ¹, Praveen Kumar M ², Niroshini R ^{3,1} Assistant Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Wind Farms In Tamil Nadu's Coimbatore District Have Identified Several Issues, Including Flickering Emissions, Frequent Generator Tripping, And Power Evacuation Issues Caused By A Weak Grid. Taking Into Consideration The Scarcity Of Research On Flickering Emissions, This Work Focuses On The Causes Of Short-Term Flicker Severity (Pst) In Wind Farms That Export Generated Power To Industrial Loads. To Identify The Scenarios That Cause Flickering, Simulation Models Of Fixed Speed Wind Farm And Variable Speed Wind Farm With Controllers Were Developed Using Dig Silent Power Factory Software. The Flicker Emissions Were Measured At The Wind Farm Substations Using Fluke And Dranetz Pk5.8 Power Quality Analyzers In Accordance With The Iec 61400-21 Standard. To Validate The Simulation Model, The Results From The Flicker Meter During The Simulation And The Field Measurements Were Compared. According To The Results Of This Research, Both Fixed And Variable Speeds Produce Flicker Emissions That Exceed The Iec Standard Limit That Causes The Power Electronics-Based Industrial Drives To Fail To Operate. The Controllers Were Developed To Improve The Performance Of Wind Farms That Will Benefit The Current And Future Wind Energy-Efficient Conversion Systems.

Keywords: Flicker Meter, Wind Energy.

160. Fuzzy Logic Pid Controller With Both Coefficient And Error Modifications For Digitally-Controlled Dc-Dc Switching Converters

Mr.P.Nirmalkumar ¹, Niroshini ², Nithing A ^{3,1} Assistant Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

To Improve The Transient Response Performance Of Digitally-Controlled Dc-Dc Switching Converters, A Fuzzy Logic Control Proportional-Integral-Differential (Fic-Pid) Controller With Both Coefficient And Error Modifications Is Presented In This Paper. The Controller Consists Of A Pid Compensator And Two Fuzzy Logic Controllers (Flics): One That Adjusts The Control Coefficients Of Pid Compensator And Another That Modifies Voltage Error Input To It. These Two Flics Have Different Fuzzy Input Subsets (Fis), Leading To Multiple Modifications Of Control Coefficients And Voltage Error For Pid Compensator. Consequently, The Proposed Controller Results In Finer Fis Than A Conventional Fic-Pid Controller Without Significantly Increasing The Hardware Cost. Experimental Results Demonstrate That It Yields A Better Transient Performance In A Dc-Dc Switching Converter Than Does A Conventional Fic-Pid Controller That Only Modifies The Pid Control Coefficients: The Transient Performance Can Be Improved By At Least 50% And The Required Hardware Resources Can Be Reduced By At Least 20%.

Keywords: Fuzzy Logic, Pid Controller, Dc-Dc Converter.


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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

161. Implementation Of An A-Source Dc-Dc Boost Combination Phase-Shifting Full-Bridge Converter For Electric Car Rapid Charging Applications

Mr.A.Thangaraj ¹, Deepika G ², Mano K ³ Assistant Professor, ^{1,2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

In This Paper, A Dc-Dc Boost Converter Is Favored At The Front Ends Of The Usual Power Electronic Converters For Electric Car Rapid Charging Purposes Utilizing Solar Photovoltaic System, Which Is Included By A Full-Bridge Converter With Discontinuous Switching Designs. The Influence Of Circuitry Parasite Adds Substantially Towards Power Dissipation And Lowers Efficiency. An Effort Is Made On The Overall System By Incorporating Voltage Of 25-75 Vdc To Start Charging A Rechargeable Battery Of 48 V With Standard System Parameters Of (200-250) W Is Focused With An Operating Frequency Of 15 Khz At The Boosting Stage But Also 120 Khz At The Full-Bridge Phase And Is Simulated Using The Matlab Framework. The Improved Incremental Conductance Mpp Approach Improves The System's Photovoltaic Performance.

Keyword: Electric Car, Full Bridge Converter, Pv System

162. Rotor Material Selection For High-Speed Double Cage Solid Rotor Induction Motor

Mr.A.Thangaraj ¹, Raja V ², Hari Gowtham M ³ Assistant Professor, ^{2,3} Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

This Paper Presents The Effect Of Various Materials On The Performance Of A 3-Phase, 180 Kw, 170 Hz, High-Speed Double Cage Solid Rotor Induction Motor Using Ansys Maxwell 2-D Software. The Double Cage Rotor Has Been Simulated With Different Materials For The Upper Cage And Lower Cage. It Has Been Observed That In The Double Cage Rotor, Both Lower Cage And Upper Cage Of Aluminum Is A Better Choice Because It Furnishes The Large Starting Torque, Lower Torque Ripple And More Value Of Has Also Been Analyzed And The Material, M19_24g, Has Been Found An Improved Choice Compared To Other Rotor Core Materials Owing To Production Of Higher Average Torque With Lower Value Of Torque Ripple. For End Ring Material, Becu, Has Been Discovered The Better Choice Because It Renders The Highest Starting Torque And Better Power Factor Without Compromising The Mechanical Strength Of The Motor.

Keywords: Induction Motor, Ansys Maxwell 2-D Software



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Indra Ganesan College of Engineering
16 Vallyer, Madurai Main Road
Manikandam, Trichy-620 012

163. Solar Pv And Wind Energy Based Reconfigurable Microgrid For Optimal Load Dispatch

Mr.A.Thangaraj ¹, Harlharan B², Khajamoimadeen S² Assistant Professor, ^{2,3}Ug Students

^{1,2,3}Indra Ganesan College Of Engineering, Manikandam, Trichy

Abstract:

Distribution Generation (Dg), Energy Storage Systems (Ess), Distributed Reactive Sources (Drs), And Resilient Loads That May Operate In Both Linked And Isolated Modes Form The Microgrid (Mg). Unpredictable And Variable Dgs, Like As Renewable Energy Sources Like Wind And Photovoltaic Systems, Are Especially Difficult For Mg Planners To Make Judgments On (Pves). This Work Provides A Rigorous Hybrid Optimization Approach For Designing Reconfigurable Mgs To Tackle Technological And Economic Uncertainty. The Suggested Technique Leverages The Moth Flame Optimization (Mfo) Algorithm Paired With A Heuristic Fuzzy For Optimum Dg Positioning And Reconfiguration, Manufacturing Costs, And Loss Avoidance. This Hybrid Algorithm Improves Electricity Quality, Increases Customer Savings, And Benefits The Distributed System Operators (Dso). The Mfo Algorithm Is Used To Optimize And Reorganize Dg Sites. And The Fuzzy Technique Is Utilized To Deal With Multi-Objective Problems, All To Reduce Microgrid Expenses Like Emission Costs And The Supply Of Reliable Energy. Using The Supplied Technique To Address Three Distinct Situations Helps Dso Choose The Appropriate Structures. For Testing, A 33-Bus Ieee Rds Microgrid Is Employed. Validation Is Done Utilizing A 24-H Daily Load Pattern And 24-H Typical Load Dispatching Behavior For Both Wes And Pves To Ensure Reliability. Studies Show Micro Grids Outperform Present Structures.

Keywords: Solar Pv, Wind Energy, Microgrid.



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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

164. Short Term Load Forecasting Of Indian System Using Linear Regression And Artificial Neural Network

¹Mr.D.P. Devan, It, Associate Professor Bharath C, It, Ug Student

Abstract:

This research focuses on the short-term load forecasting of the Indian power system using two distinct techniques: Linear Regression and Artificial Neural Network (ANN). Short-term load forecasting is crucial for effective energy management, grid stability, and resource planning in the power sector. The study compares the performance of Linear Regression, a traditional statistical method, with ANN, a data-driven machine learning approach, in predicting short-term load demand. The research incorporates historical load data, weather conditions, and other relevant factors to develop accurate load forecasting models. Through extensive simulations and validation, the study evaluates the accuracy, robustness, and efficiency of both Linear Regression and ANN models for short-term load forecasting in the dynamic context of the Indian power system. The outcomes of this research contribute insights into the applicability of different forecasting techniques for short-term load prediction, aiding energy planners, grid operators, and researchers in making informed decisions for efficient power system management.

Keywords: Short-Term Load Forecasting, Linear Regression, Artificial Neural Network, Indian Power System, Energy Management, Machine Learning, Data-Driven Forecasting, Grid Stability.

165. Analyzing Effect Of Bad Measurement Data On Load Flow And State Estimation In Power Systems

¹Mrs. Saroja Devi S, It, Assistant Professor Jeevamani M, It, Ug Student

Abstract:

This research investigates the impact of bad measurement data on load flow and state estimation in power systems. Accurate load flow analysis and state estimation are critical for ensuring the reliable and secure operation of power networks. However, the presence of erroneous or bad measurement data can significantly affect the performance of these analyses, leading to suboptimal results and potential operational challenges. The study employs advanced techniques to simulate scenarios involving bad measurement data and assesses their influence on load flow and state estimation accuracy. Different types of bad data, including outliers and erroneous measurements, are considered to analyze their effects on the overall performance of power system analysis tools. Through extensive simulations and validation, the research aims to provide insights into the vulnerabilities and sensitivities of load flow and state estimation algorithms to bad measurement data. The outcomes contribute to the development of robust methodologies for detecting and mitigating the impact of unreliable measurement data in power system analysis.

Keywords: Bad Measurement Data, Load Flow Analysis, State Estimation, Power Systems, Outliers, Error Detection, Operational Challenges, Simulation, Power Network Reliability.

166. Vm Placement Of Multidimensional Resources Using Cartesian Co-Ordinates Based Approach

¹Ms. Pushpalatha B, It, Assistant Professor Kanagavalli J, It, Ug Student

Abstract:

This research explores a Cartesian coordinates-based approach for Virtual Machine (VM) placement in cloud computing environments, specifically focusing on multidimensional resources. VM placement is a critical aspect of cloud infrastructure management, and efficient allocation of resources is essential for optimizing performance and resource utilization. The proposed approach leverages Cartesian coordinates to represent the multidimensional nature of resources, considering factors such as CPU, memory, and storage. The study aims to develop a systematic methodology for VM placement that takes into account the spatial relationships between VMs and resources. Through simulations and comparative analyses, the research evaluates the effectiveness of the Cartesian coordinates-based approach in optimizing resource allocation and minimizing contention in cloud environments. The outcomes aim to contribute to the refinement of VM placement strategies, providing insights for cloud administrators and researchers working on enhancing resource management in cloud computing.

Keywords: VM Placement, Cloud Computing, Cartesian Coordinates, Multidimensional Resources, Resource Allocation, Cloud Infrastructure Management, Performance Optimization, Spatial Relationships.

167. Hierarchical Clustering Technique For Word Sense Disambiguation Using Hindi

Wordnet

¹Mrs. Uthra Devi K, It, Associate Professor Jeyapriya D, It, Ug Student

Abstract:

This research introduces a Hierarchical Clustering Technique for Word Sense Disambiguation (WSD) using Hindi WordNet. Word Sense Disambiguation is a critical task in natural language processing, aiming to identify the correct sense of a word in a given context. The study focuses on leveraging the hierarchical structure of Hindi WordNet to enhance the accuracy of WSD. The proposed technique involves the clustering of senses based on their hierarchical relationships in the WordNet hierarchy. Through the use of clustering algorithms, the research aims to group related senses together, facilitating more accurate disambiguation in diverse contexts. By applying the Hierarchical Clustering Technique to Hindi WordNet, the study evaluates its performance through experiments and comparisons with existing WSD methods. The outcomes aim to contribute to the advancement of WSD techniques for languages with hierarchical lexical resources, providing a valuable approach for improving sense disambiguation in Hindi language applications.

Keywords: Word Sense Disambiguation, Hierarchical Clustering, Hindi WordNet, Natural Language Processing, Lexical Resources, Semantic Analysis, Sense Identification.



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**Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mandaidam, Trichy-620 012**

168. Pose, Illumination And Expression Invariant Face Recognition Using Laplacian Of Gaussian And Local Binary Pattern

¹Mrs.B.Kanisha, It, Assistant Professor Kalalyarasi N, It, Ug Student

Abstract:

This Research Addresses The Challenges Of Pose, Illumination, And Expression Variations In Face Recognition By Proposing A Method That Combines Laplacian Of Gaussian (Log) And Local Binary Pattern (Lbp) Techniques. Face Recognition Systems Often Face Difficulties When Dealing With Non-Frontal Poses, Varying Illumination Conditions, And Different Facial Expressions. The Study Focuses On Developing A Robust And Invariant Face Recognition Approach That Can Handle These Challenges Effectively. The Proposed Method Utilizes Log For Capturing Fine-Grained Facial Details And Lbp For Encoding Local Texture Patterns. The Combination Of These Techniques Aims To Create A Feature Representation That Is Invariant To Changes In Pose, Illumination, And Facial Expressions. The Research Involves Extensive Experiments And Evaluations On Benchmark Face Databases To Assess The Performance And Robustness Of The Proposed Method. The Outcomes Of This Research Contribute To The Advancement Of Face Recognition Technology By Providing A Solution That Addresses The Challenges Posed By Variations In Pose, Illumination, And Expression, Making It Suitable For Real-World Applications Where Such Variations Are Common.

Keywords: Face Recognition, Pose Invariance, Illumination Invariance, Expression Invariance, Laplacian Of Gaussian, Local Binary Pattern, Feature Representation, Robust Recognition, Biometric Security.



PRINCIPAL

**Indira Ganesan College of Engineering
IG Valley, Madurai Main St.
Manikandan, Tricity-620 014**

169. Performance Enhancement Of 12 X 160 Gbps (1.92 Tbps) Wdm Optical System For Transmission Distance Upto 8000 Km With Differential Coding

¹Ms. Nancy V, It, Assistant Professor Priyadharshini A, It, Ug Student

Abstract:

This research focuses on enhancing the performance of a 12 x 160 Gbps (1.92 Tbps) Wavelength Division Multiplexing (WDM) optical communication system for transmission distances up to 8000 km. The study employs a technique known as differential coding to mitigate signal degradation and enhance the overall system performance. Differential coding involves encoding data differentially, providing advantages in terms of noise immunity and improved signal integrity. The research investigates the application of this coding technique to each channel in the WDM optical system, aiming to reduce errors and increase the achievable transmission distance. Through extensive simulations and performance evaluations, the study assesses the impact of the proposed enhancement on the system's bit error rate, signal quality, and overall reliability. The outcomes aim to contribute to the optimization of high-capacity WDM optical communication systems, making them more robust and efficient for long-distance transmissions.

Keywords: WDM Optical System, Performance Enhancement, High-Capacity Communication, Differential Coding, Transmission Distance, Signal Integrity, Bit Error Rate, Optical Communication, Long-Haul Communication.

170. Arduino Controlled War Field Spy Robot Using Nightvision Wireless Camera And Android

¹Ms. Getsyal A, It, Assistant Professor Parameshwari K, It, Ug Student

Abstract:

This research presents the design and implementation of an Arduino-controlled War Field Spy Robot equipped with a Night Vision wireless camera, controlled through an Android application. The spy robot is designed for surveillance and reconnaissance in challenging environments, particularly during low-light conditions. The system integrates an Arduino microcontroller for motor control and data processing, a Night Vision wireless camera for capturing real-time video, and an Android application for remote control. The Android app communicates with the Arduino through a wireless connection, enabling users to maneuver the robot and receive live video feed from the Night Vision camera. The study involves the development of the hardware and software components, addressing challenges such as motor control, wireless communication, and real-time video streaming. Through experimental validation, the research evaluates the performance and functionality of the War Field Spy Robot in various scenarios. The outcomes contribute to the field of robotics and surveillance technology, providing insights into the design and implementation of a versatile and effective spy robot for military or security applications.

Keywords: Arduino, War Field Spy Robot, Night Vision, Wireless Camera, Android Control, Surveillance, Reconnaissance, Robotics, Real-time Video Streaming.

171. Optimized Unscheduled Interchange Based Secondary Control For Two Area Deregulated Electricity Market

¹Mrs. Rajeswari S, It, Assistant Professor Muthulakshmi P, It, Ug Student

Abstract:

This Research Introduces An Optimized Unscheduled Interchange (Oui) Based Secondary Control Strategy For Two-Area Deregulated Electricity Markets. Secondary Control Is Crucial For Maintaining System Stability And Balancing Power Supply And Demand In The Dynamically Changing Electricity Market Scenario. The Study Proposes An Optimization-Driven Approach To Unscheduled Interchange (Ui) Management To Enhance The Efficiency And Reliability Of Secondary Control Mechanisms. The Oui Strategy Involves The Formulation Of An Optimization Model That Considers Market Prices, Generation Costs, And Ui Constraints. Through Extensive Simulations And Case Studies, The Research Evaluates The Performance Of The Oui-Based Secondary Control In Terms Of Economic Efficiency, System Stability, And Adherence To Market Regulations. The Outcomes Of This Research Contribute To The Advancement Of Secondary Control Strategies In Deregulated Electricity Markets, Providing A Reliable And Optimized Approach To Manage Unscheduled Interchange And Improve The Overall Operational Efficiency Of Interconnected Power Systems.

Keywords: Secondary Control, Deregulated Electricity Market, Optimized Unscheduled Interchange, Market Prices, Power System Stability, Economic Efficiency, Interconnected Power Systems, Energy Market Regulation.

172. Introducing The Conceptual Model Of Industrial Moocs (I-Moocs) For Engineering Classes

¹Mrs. Padma Devi A, It, Assistant Professor Keerthika R, It, Ug Student

Abstract:

This research introduces the conceptual model of Industrial Massive Open Online Courses (I-MOOCs) tailored for engineering classes. MOOCs have emerged as a transformative force in education, offering scalable and accessible learning experiences. The study focuses on adapting the MOOC model to cater specifically to the needs of engineering education in industrial contexts. The conceptual model, I-MOOCs, integrates industry-relevant content, real-world case studies, and collaborative learning environments to enhance the applicability and effectiveness of engineering education. The research explores the design considerations, pedagogical approaches, and technological infrastructure required to implement I-MOOCs successfully. Through the conceptualization of I-MOOCs, the research aims to provide a framework that bridges the gap between academic learning and industry expectations in engineering education. The outcomes contribute to the ongoing discourse on innovative approaches to teaching engineering concepts within the context of industrial applications.

Keywords: Industrial MOOCs, Engineering Education, Massive Open Online Courses, Conceptual Model, Online Learning, Collaborative Learning, Industry-Relevant Content, Pedagogical Approaches.

173. Design Of Low Voltage Bandgap Reference Circuit Using Subthreshold Mosfet

¹Mrs. Pushpalatha B, It, Assistant Professor Nandhini C, It, Ug Student

Abstract:

This research presents the design of a low-voltage bandgap reference circuit utilizing subthreshold MOSFET operation. Bandgap reference circuits are essential components in integrated circuits, providing a stable and temperature-independent voltage reference. The study focuses on achieving low-voltage operation through the use of MOSFETs in subthreshold region, enabling energy-efficient applications in low-power electronic devices.

The proposed circuit design incorporates subthreshold MOSFETs in a bandgap reference architecture to generate a reliable and accurate voltage reference. Through simulations and optimizations, the research aims to achieve a balance between low-voltage operation, temperature stability, and power efficiency.

The outcomes of this research contribute to the development of low-power and low-voltage reference circuits, which are crucial for applications in energy-constrained environments and emerging technologies requiring efficient voltage references.

Keywords: Bandgap Reference Circuit, Low Voltage, Subthreshold MOSFET, Integrated Circuits, Low-Power Electronics, Voltage Reference, Temperature Stability, Power Efficiency.

174.A Distributed Dynamic And Customized Load Balancing Algorithm For Virtual

Instances

¹Mrs. Uthra Devi K, It, Associate Professor Nelson, It, Ug

Student

Abstract:

This research introduces a Distributed Dynamic and Customized Load Balancing Algorithm designed for managing virtual instances in cloud computing environments. Load balancing is critical for optimizing resource utilization and maintaining system performance in dynamic and scalable cloud infrastructures. The proposed algorithm aims to distribute workloads efficiently among virtual instances, considering the dynamic nature of the cloud environment and the diverse requirements of different applications. The algorithm employs dynamic load balancing mechanisms to adapt to changing workloads and customizes the balancing strategy based on the specific characteristics of each application. Through extensive simulations and evaluations, the research assesses the performance of the algorithm in terms of response time, resource utilization, and overall system efficiency. The outcomes of this research contribute to the enhancement of load balancing strategies in cloud computing, providing a tailored and adaptive solution for managing virtual instances in distributed and dynamic environments.

Keywords: Load Balancing Algorithm, Distributed Systems, Cloud Computing, Virtual Instances, Dynamic Load Balancing, Resource Utilization, System Efficiency, Customized Balancing, Scalable Cloud Infrastructure.

175. Optimal Placement Of Test For Improvement Of Static Voltage Stability

Mr.D.P. Devan, It, Associate Professor Boopalan K. It, Ug Student

Abstract:

This research addresses the improvement of static voltage stability in power systems through the optimal placement of Thyristor-Controlled Series Capacitors (TCSC). Voltage stability is a critical aspect of power system operation, and TCSC devices can be strategically placed to enhance voltage stability margins. The study focuses on formulating an optimization model to identify the optimal locations for TCSC placement, considering factors such as network topology, load variations, and system constraints.

Through simulations and case studies, the research evaluates the effectiveness of the proposed optimal TCSC placement strategy in enhancing static voltage stability. The outcomes aim to provide insights into the benefits of strategically deploying TCSC devices to mitigate voltage stability issues and improve the overall reliability of power systems.

Keywords: Thyristor-Controlled Series Capacitors (TCSC), Optimal Placement, Static Voltage Stability, Power System Operation, Optimization Model, Network Topology, Load Variations, System Reliability.

176. Implementation Of Edge Detection Algorithms In Real Time On Fpg

Mrs. Saroja Devi S, It, Assistant Professor Selvupathi V, It, Ug Student

Abstract:

This research focuses on the real-time implementation of edge detection algorithms on a Field-Programmable Gate Array (FPGA). Edge detection is a fundamental process in image processing, and real-time implementation is crucial for applications such as robotics, surveillance, and computer vision. The study explores the efficiency and performance of FPGA-based hardware acceleration for edge detection algorithms.

The research involves the selection and adaptation of edge detection algorithms suitable for real-time FPGA implementation. Through hardware description language (HDL) programming and synthesis, the algorithms are mapped onto the FPGA architecture to exploit parallelism and accelerate processing speed.

Performance evaluations and comparisons with software-based implementations are conducted to assess the advantages of real-time FPGA-based edge detection. The outcomes contribute to the advancement of real-time image processing systems, showcasing the potential of FPGA technology in accelerating edge detection algorithms for various applications.

Keywords: Edge Detection, Real-Time Implementation, FPGA, Image Processing, Hardware Acceleration, Robotics, Surveillance, Computer Vision



PRINCIPAL

**Indra Ganesan College of Engineering
16 Vally, Madurai Main Road
Manikandan, Trichy-620 012**

177. Encryscation: A Novel Framework For Cloud IaaS, DaaS Security Using Encryption And Obfuscation Techniques

¹Ms. Nancy V, It, Assistant Professor ,Radhika M, It, Ug Student

Abstract:

This research introduces EncryScation, a novel framework designed to enhance the security of Cloud Infrastructure as a Service (IaaS) and Desktop as a Service (DaaS) through a combination of encryption and obfuscation techniques. Security is a paramount concern in cloud computing, and this framework aims to provide an integrated solution to safeguard sensitive data and communications within the cloud environment. EncryScation employs advanced encryption algorithms to protect data at rest and in transit, ensuring confidentiality and integrity. Additionally, obfuscation techniques are applied to obscure critical information and protect against potential attacks. The framework is designed to be flexible and customizable, allowing users to tailor security measures based on specific requirements and compliance standards. Through simulations and evaluations, the research assesses the effectiveness of EncryScation in enhancing the security posture of cloud-based services. The outcomes aim to contribute to the development of comprehensive security frameworks for cloud computing environments, offering a holistic approach to address evolving security challenges.

Keywords: EncryScation, Cloud Security, IaaS, DaaS, Encryption, Obfuscation, Data Protection, Confidentiality, Integrity, Security Framework.

178. Design And Implementation Of Bicomos Based Low Temperature Coefficient Bandgap Reference Using 130nm Technology

¹Ms. Getsyal A, It, Assistant Professor Rubini K, It, Ug Student

Abstract:

This research presents the design and implementation of a BiCMOS-based low-temperature coefficient bandgap reference circuit using 130nm technology. Bandgap voltage references are essential components in integrated circuits, providing stable and temperature-independent reference voltages critical for various applications. The study focuses on leveraging the advantages of Bipolar Complementary Metal-Oxide-Semiconductor (BiCMOS) technology to achieve low-temperature coefficient performance. The circuit design incorporates temperature-compensated elements to mitigate the effects of temperature variations on the output voltage. Through simulations, optimizations, and experimental validations, the research evaluates the performance of the proposed BiCMOS-based bandgap reference in terms of temperature stability, accuracy, and power consumption. The outcomes of this research contribute to the advancement of bandgap reference circuitry, providing insights into the design considerations and optimizations for achieving low-temperature coefficient performance in modern semiconductor technologies.

Keywords: BiCMOS, Bandgap Reference, Low Temperature Coefficient, Integrated Circuits, Semiconductor Technology, Temperature Stability, Circuit Design, 130nm Technology.

179. QoS Aware Multipath Routing Protocol For Multimedia Transmission In Wmsn

¹Mrs. Rajeswari S, It, Assistant Professor Savithri S, It, Ug Student

Abstract:

This research proposes a Quality of Service (QoS) aware multipath routing protocol tailored for multimedia transmission in Wireless Multimedia Sensor Networks (WMSN). Multimedia applications in WMSNs, which include video and audio data, demand stringent QoS requirements to ensure reliable and efficient transmission. The study focuses on addressing the unique challenges posed by multimedia traffic in WMSNs through the development of a multipath routing protocol. The proposed protocol aims to consider parameters such as bandwidth, delay, and packet loss in the routing decision-making process to ~~optimize the QoS for multimedia applications.~~ Through ~~simulations and performance evaluations,~~ the research assesses the effectiveness of the QoS aware multipath routing protocol in meeting the requirements of multimedia transmission in WMSNs. The outcomes of this research contribute to the advancement of routing protocols for multimedia applications in wireless sensor networks, providing a QoS-aware solution that enhances the reliability and efficiency of multimedia data transmission.

Keywords: QoS, Multipath Routing Protocol, Multimedia Transmission, WMSN, Wireless Sensor Networks, Quality of Service, Routing Decision, Performance Evaluation.

180. Multibiometric Template Generation Using Cs Theory And Discrete Wavelet Transform Based Fusion Technique

¹Mr.D.P. Devan, It, Associate Professor Roshini A, It, Ug Student

Abstract:

This research proposes a Multibiometric Template Generation method using Compressive Sensing (CS) Theory and a Discrete Wavelet Transform (DWT)-based fusion technique. Multibiometric systems utilize information from multiple biometric modalities to enhance recognition accuracy and robustness. The study focuses on optimizing the template generation process by leveraging CS Theory for sparse representation and DWT-based fusion for effective feature integration. The proposed method combines the benefits of CS Theory, which allows for efficient representation of biometric data, and DWT-based fusion, which integrates complementary information from different biometric modalities. Through simulations and performance evaluations, the research assesses the accuracy and robustness of the Multibiometric Template Generation method in diverse recognition scenarios. The outcomes contribute to the advancement of multibiometric systems, providing an efficient and reliable template generation approach that enhances recognition performance and addresses the challenges associated with utilizing multiple biometric modalities.

Keywords: Multibiometric, Template Generation, Compressive Sensing Theory, Discrete Wavelet Transform, Biometric Fusion, Recognition Accuracy, Robustness, Feature Integration

181. Gradient-Kalman Filtering (Gkf) Based Endoscopic Image Restoration

¹Mrs. Saroja Devi S, It, Assistant Professor Krishnan K, It, Ug Student

Abstract:

This research introduces a Gradient-Kalman Filtering (GKF) based approach for endoscopic image restoration. Endoscopic images often suffer from noise, artifacts, and distortions due to the imaging process, limiting the quality of visual information for medical practitioners. The study focuses on leveraging the Gradient-Kalman Filtering technique to enhance the clarity and quality of endoscopic images. The proposed method utilizes gradient information for effective noise reduction and image restoration. Through simulations and experimental validations using real endoscopic images, the research assesses the performance of the GKF-based approach in terms of denoising, artifact removal, and overall image quality improvement. The outcomes of this research contribute to advancements in medical image processing, providing a novel and effective solution for enhancing the visual quality of endoscopic images, which is crucial for accurate medical diagnosis and decision-making.

Keywords: Gradient-Kalman Filtering, Image Restoration, Endoscopic Images, Medical Image Processing, Noise Reduction, Artifact Removal, Visual Quality Improvement.

182. Endoscopic Image Restoration Using Truncated Constrained Least Squares Filter In Frequency-Domain And Sure-Let Filter

¹Ms. Pushpalatha B, It, Assistant Professor Anusuya Devi R , It, Ug Student

Abstract:

This research presents a novel approach for endoscopic image restoration using a Truncated Constrained Least Squares (TCLS) filter in the frequency domain and a Sure-LET filter. Endoscopic images often suffer from various distortions, including noise and blur, which can impact the quality of diagnostic information. The study focuses on leveraging advanced filtering techniques to enhance the visual quality of endoscopic images. The proposed method employs the TCLS filter in the frequency domain to address noise, and the Sure-LET filter for effective image enhancement and denoising. Through simulations and experimental validations using real endoscopic images, the research assesses the performance of the proposed approach in terms of noise reduction, artifact removal, and overall image quality improvement. The outcomes of this research contribute to the field of medical image processing, providing an innovative solution for restoring and enhancing endoscopic images. This is crucial for improving the accuracy of medical diagnoses and facilitating better decision-making in clinical settings.

Keywords: Endoscopic Image Restoration, Truncated Constrained Least Squares Filter, Frequency Domain, Sure-LET Filter, Medical Image Processing, Noise Reduction, Image Enhancement, Denoising.



PRINCIPAL

Jyoti Ganagan College of Engineering

JS Valley, Madurai Main Road

Manikandam, Trichy-620 012

183. Rlkg: Entity Representation Learning And Knowledge Graph Based Association Analysis Of Covid-19 Through Mining Of Unstructured Biomedical Corpora

¹Mrs. Uthra Devi K, II, Associate Professor Balambigai A, II, UG Student

Abstract:

This Research Introduces Rlkg, A Novel Approach For Entity Representation Learning And Knowledge Graph-Based Association Analysis Of Covid-19 Through Mining Unstructured Biomedical Corpora. The Covid-19 Pandemic Has Generated Vast Amounts Of Biomedical Literature, Making It Challenging To Extract Relevant Information Efficiently. The Study Focuses On Leveraging Advanced Techniques In Entity Representation Learning And Knowledge Graph Construction For Comprehensive Association Analysis. The Rlkg Approach Involves Embedding Entities From Unstructured Biomedical Corpora Into A Representation Space And Constructing A Knowledge Graph To Capture Associations Between Entities. Through Extensive Mining And Analysis, The Research Aims To Identify Meaningful Relationships, Correlations, And Insights Related To Covid-19 And Its Various Aspects. The Outcomes Of This Research Contribute To The Field Of Biomedical Informatics, Offering A Powerful Tool For Knowledge Discovery And Association Analysis In The Context Of Covid-19 Research. Rlkg Provides A Scalable And Efficient Approach To Extract Valuable Information From The Rapidly Expanding Biomedical Literature.

Keywords: Entity Representation Learning, Knowledge Graph, Association Analysis, Covid- 19, Biomedical Corpora, Unstructured Text Mining, Biomedical Informatics, Knowledge Discovery.

184. Copy Move Forgery Detection Using Sift And Gmm

¹Mrs.B.Kanisha, II, Assistant Professor Victoriyanani T, II, UG Student

Abstract:

This research addresses the challenge of detecting copy-move forgery in digital images using a combination of Scale-Invariant Feature Transform (SIFT) and Gaussian Mixture Model (GMM) techniques. Copy-move forgery involves duplicating and placing a part of an image in another location to deceive viewers. The study focuses on developing an effective and robust method to identify such forgeries through the extraction of distinctive features and statistical modeling. The proposed approach utilizes SIFT to extract key points and descriptors from the image, enabling the creation of a feature-rich representation. GMM is employed to model the distribution of these features, allowing the detection of anomalies that indicate copy-move forgery. Through simulations and evaluations, the research assesses the accuracy and reliability of the SIFT and GMM-based method in various scenarios. The outcomes of this research contribute to the advancement of digital image forensics, providing a sophisticated solution for detecting copy-move forgery and ensuring the integrity of digital visual content.

Keywords: Copy-Move Forgery Detection, SIFT, Gaussian Mixture Model, Digital Image Forensics, Image Integrity, Feature Extraction, Statistical Modeling.

185. Language-Independent Fake News Detection Over Social Media Networks Using The Centrality-Aware Graph Convolution Network

¹Ms. Nancy V, It, Assistant Professor Sivakumar S, It, Ug Student

Abstract:

This research proposes a language-independent fake news detection method over social media networks using the Centrality-Aware Graph Convolution Network (CAGCN). Fake news dissemination on social media is a pervasive issue, and the language barrier poses a challenge for existing detection methods. The study focuses on leveraging graph-based representations and centrality measures to develop a language-independent approach for identifying fake news in diverse linguistic contexts.

The CAGCN method involves constructing a graph representation of social media interactions, considering user behavior and content propagation. Centrality-aware graph convolution is applied to capture the influence and connectivity patterns within the network. Through simulations and evaluations across multiple languages, the research assesses the effectiveness of the proposed method in detecting fake news. The outcomes of this research contribute to the advancement of fake news detection techniques, providing a language-independent solution that accounts for the complex social dynamics and diverse linguistic characteristics of information spread on social media networks.

Keywords: Fake News Detection, Social Media Networks, Graph Convolution Network, Centrality Measures, Language-Independent, Information Spread, User Behavior, Content Propagation

186. Lmsf: Lightweight Minimal Scheduling Function For 6tisch Networks

¹Ms. Getryal A, It, Assistant Professor Thasthaglr S, It, Ug Student

Abstract:

This research introduces LMSF (Lightweight Minimal Scheduling Function), a scheduling function designed for 6TiSCH (IPv6 over the TSCH mode of IEEE 802.15.4e) networks. 6TiSCH networks are critical for enabling reliable and low-latency communication in the context of the Internet of Things (IoT). The study focuses on developing a lightweight scheduling function that minimizes overhead while providing efficient scheduling in 6TiSCH networks. LMSF is designed to operate in a resource-efficient manner, considering constraints such as energy consumption, memory usage, and communication overhead. Through simulations and performance evaluations, the research assesses the effectiveness of LMSF in terms of scheduling accuracy, reliability, and resource utilization. The outcomes of this research contribute to the optimization of scheduling functions in 6TiSCH networks, providing a lightweight solution suitable for resource-constrained IoT devices and enhancing the overall efficiency of communication in IoT deployments.

Keywords: LMSF, Lightweight Minimal Scheduling Function, 6TiSCH Networks, IoT, Scheduling Function, Resource Efficiency, Communication Overhead, IoT Deployment.

187. Design Fiction: A Way To Foresee The Future Of Human-Computer Interaction Design Challenges

¹Mrs. Uthra Devi K, It, Associate Professor Vidhyasri M , It, Ug Student

Abstract:

Design Fiction is an innovative approach that offers a way to anticipate and explore potential future challenges in Human-Computer Interaction (HCI) design. HCI constantly evolves with technological advancements, societal changes, and emerging user needs. The study focuses on using Design Fiction as a speculative tool to envision future scenarios, interactions, and challenges in HCI design. This approach involves creating fictional narratives, prototypes, or scenarios that explore the possible implications of technological developments on user experiences. By immersing designers, researchers, and stakeholders in these speculative scenarios, Design Fiction allows them to anticipate and address potential challenges before they arise. Through case studies, workshops, and collaborative exercises, the research evaluates the effectiveness of Design Fiction in foreseeing HCI design challenges and fostering creative solutions. The outcomes contribute to the HCI field by providing a method for proactive exploration and preparation for the future of interactive technologies.

Keywords: Design Fiction, Human-Computer Interaction, HCI Design Challenges, Speculative Design, Future Scenarios, User Experience, Technological Developments.

188. Iema3: An Image Encryption Scheme Using Modified Snow 3g Algorithm

¹Mrs.B.Kanisha, It, Assistant Professor Sivakavi S, It, Ug Student

Abstract:

This research presents IEMS3, an Image Encryption Scheme utilizing a modified version of the SNOW 3G algorithm. Image encryption is crucial for securing visual data in various applications, and employing robust encryption algorithms is essential for maintaining the confidentiality and integrity of images. The study focuses on enhancing the security of image data through the modification and adaptation of the SNOW 3G algorithm for encryption purposes. IEMS3 involves the integration of the SNOW 3G algorithm into the image encryption process, incorporating modifications to enhance security features. Through simulations, analyses, and performance evaluations, the research assesses the effectiveness of IEMS3 in terms of encryption strength, computational efficiency, and resistance to common cryptographic attacks. The outcomes of this research contribute to the field of image security, providing an encryption scheme that leverages the strengths of the SNOW 3G algorithm to ensure robust protection for visual data in various applications.

Keywords: Image Encryption Scheme, SNOW 3G Algorithm, Image Security, Encryption Strength, Computational Efficiency, Cryptographic Attacks.

189. Some Insights On Dynamic Maintenance Of Gomory-Hu Tree In Cactus Graphs And General Graphs

¹Ms. Nancy V, It, Assistant Professor Thanisha S, It, Ug Student

Abstract:

This research provides insights into the dynamic maintenance of the Gomory-Hu tree structure in both cactus graphs and general graphs. The Gomory-Hu tree is a fundamental data structure used in network flow analysis and connectivity-related problems. The study focuses on understanding the dynamic aspects of maintaining the Gomory-Hu tree structure when edges are added or removed from the graph. The research explores algorithms and strategies for efficiently updating the Gomory-Hu tree in the context of cactus graphs and general graphs. Through theoretical analysis and simulations, the study evaluates the performance and computational efficiency of the proposed dynamic maintenance approaches. The outcomes of this research contribute to the understanding of dynamic graph algorithms, specifically in the context of Gomory-Hu tree maintenance. The insights gained are valuable for network flow analysis and connectivity-related applications in both cactus graphs and general graphs.

Keywords: Gomory-Hu Tree, Dynamic Maintenance, Cactus Graphs, General Graphs, Network Flow Analysis, Connectivity, Dynamic Graph Algorithms.

190. Topology-Aware Cluster Configuration For Real-Time Multi-Access Edge Computing

¹Ms. Getayal A, It, Assistant Professor Aravindhan S, It, Ug Student

Abstract:

This research proposes a Topology-Aware Cluster Configuration approach for real-time Multi-access Edge Computing (MEC) systems. MEC plays a crucial role in providing low-latency and high-performance computing resources at the network edge. The study focuses on optimizing the configuration of MEC clusters based on the network topology to enhance real-time processing capabilities. The proposed approach involves considering the physical network topology, communication links, and node capacities when configuring MEC clusters. Through simulations and performance evaluations, the research assesses the effectiveness of the Topology-Aware Cluster Configuration in improving real-time processing and reducing latency in MEC systems. The outcomes of this research contribute to the optimization of MEC infrastructure, providing a topology-aware approach for cluster configuration that aligns with the network's physical characteristics and enhances the overall performance of real-time computing applications.

Keywords: Topology-Aware Cluster Configuration, Multi-access Edge Computing, Real-time Processing, Edge Computing Infrastructure, Network Topology, Latency Reduction, Cluster Optimization.



PRINCIPAL

**Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 013**

191. Hierarchical Encoding And Reciprocal Rank Fusion-Based System For Spoiler Classification And Generation

'Ms. Getoyal A, It, Assistant Professor Wasim Akram M, It, Ug Student

Abstract:

This Research Introduces A Hierarchical Encoding And Reciprocal Rank Fusion-Based System For Spoiler Classification And Generation. Spoiler Content Poses Challenges In User-Generated Platforms, As It May Reveal Key Plot Points And Diminish The Viewing Experience For Others. The Study Focuses On Developing An Advanced System That Classifies And Generates Spoilers While Considering The Hierarchical Structure Of Textual Information. The Proposed System Utilizes Hierarchical Encoding Techniques To Capture The Semantic Relationships Within Text. Reciprocal Rank Fusion Is Applied To Combine Classification Results And Generate Spoiler Content. Through Extensive Evaluations And User Studies, The Research Assesses The Effectiveness And User Satisfaction Of The Developed System In Spoiler Detection And Generation Tasks. The Outcomes Contribute To The Field Of Content Moderation And User-Generated Platforms, Providing An Advanced Solution For Handling Spoiler Content Through A Hierarchical Encoding And Fusion-Based Approach. The System Enhances The User Experience By Mitigating The Impact Of Spoilers In Online Communities.

Keywords: Spoiler Classification, Spoiler Generation, Hierarchical Encoding, Reciprocal Rank Fusion, Content Moderation, User-Generated Platforms, Semantic Relationships, User Experience.

192. Aspos: Assamese Parts-Of-Speech Tagger Using Deep Learning Approach

'Mrs. Rajeswari S, It, Assistant Professor Pakkhyalokshmi A, It, Ug Student

Abstract:

This research presents AsPOS, an Assamese Parts-of-Speech (POS) Tagger utilizing a deep learning approach. POS tagging is a fundamental task in natural language processing that assigns grammatical categories to words in a sentence. The study focuses on addressing the specific challenges of the Assamese language and developing a POS tagger that leverages deep learning techniques. AsPOS involves the use of deep neural networks to capture intricate linguistic patterns and context-specific features in Assamese text. Through extensive training and evaluations on annotated datasets, the research assesses the accuracy and performance of AsPOS in terms of Assamese POS tagging. The outcomes of this research contribute to the advancement of natural language processing tools for the Assamese language, providing a deep learning-based solution for accurate and context-aware POS tagging in Assamese text.

Keywords: Assamese, Parts-of-Speech Tagger, Deep Learning, Natural Language Processing, Linguistic Patterns, Context-aware, POS Tagging, Assamese Language Processing

193. Mobility Assisted Adaptive Clustering Hierarchy For Grid-Based Iot Sensor Networks In 5g And Beyond

¹Mr.D.P. Devan, It, Associate Professor Karthick A, It, Ug Student

Abstract:

This Research Proposes A Mobility Assisted Adaptive Clustering Hierarchy For Grid-Based Internet Of Things (Iot) Sensor Networks In The Context Of 5g And Beyond. The Integration Of Iot Devices With The Emerging 5g Networks Introduces New Challenges And Opportunities, Particularly In Terms Of Mobility Management And Efficient Clustering. The Study Focuses On Optimizing The Structure Of Sensor Networks By Introducing Mobility Assistance And Adaptive Clustering Hierarchy. The Proposed Approach Involves Leveraging Mobility Patterns Of Iot Devices To Dynamically Adjust The Clustering Hierarchy In A Grid-Based Sensor Network. Through Simulations And Performance Evaluations, The Research Assesses The Effectiveness Of The Mobility Assisted Adaptive Clustering Hierarchy In Terms Of Network Efficiency, Energy Consumption, And Overall Performance. The Outcomes Of This Research Contribute To The Enhancement Of Iot Sensor Networks In 5g And Beyond, Providing A Mobility-Aware And Adaptive Clustering Solution That Optimizes Network Resources And Supports The Efficient Deployment Of Iot Devices In Diverse Scenarios.

Keywords: Mobility Assisted, Adaptive Clustering Hierarchy, Iot Sensor Networks, 5g And Beyond, Grid-Based Networks, Mobility Management, Network Efficiency, Energy Consumption.

194. Anonymous And Privacy Preserving Attribute-Based Decentralized DigiLocker Using Blockchain Technology

¹Mr.D.P. Devan, It, Associate Professor Harikaran S, It, Ug Student

Abstract:

This research proposes an Anonymous and Privacy-Preserving Attribute-based Decentralized DigiLocker using Blockchain Technology. Digital lockers (DigiLockers) play a crucial role in secure storage and management of personal documents and credentials. The study focuses on leveraging blockchain technology to enhance the privacy and anonymity of users while maintaining the decentralized nature of the DigiLocker system. The proposed system incorporates attribute-based access control mechanisms to ensure selective and secure sharing of documents. Through the utilization of cryptographic techniques and blockchain consensus algorithms, the research addresses concerns related to user anonymity, data integrity, and privacy preservation in decentralized DigiLocker platforms. Through simulations and security analyses, the research assesses the robustness and effectiveness of the Anonymous and Privacy-Preserving Attribute-based Decentralized DigiLocker. The outcomes contribute to the development of secure and privacy-centric digital locker systems, particularly in the context of decentralized applications and blockchain technology.

Keywords: Anonymous, Privacy-Preserving, Attribute-based, Decentralized DigiLocker, Blockchain Technology, Digital Locker, Privacy Preservation, Selective Document Sharing.

195. Anonymous Esign Based On Group Signatures

Mrs. Saroja Devi S, It, Assistant Professor Merciya Mary A, It, Ug Student

Abstract:

This research introduces an Anonymous eSign system based on Group Signatures. Electronic signatures (eSign) are widely used for digital transactions, but preserving user anonymity in such systems is crucial for privacy protection. The study focuses on leveraging group signature schemes to achieve anonymous eSign capabilities.

The proposed system allows users to sign documents electronically while maintaining their anonymity within predefined groups. Group signatures enable verification of the authenticity of the signature without revealing the identity of the signer. Through cryptographic protocols and security analyses, the research ensures the robustness and privacy of the Anonymous eSign based on Group Signatures. The outcomes of this research contribute to the development of secure and privacy-preserving electronic signature systems, particularly in scenarios where user anonymity is a critical requirement, such as in legal and financial transactions.

Keywords: Anonymous eSign, Group Signatures, Electronic Signatures, Privacy Protection, Cryptographic Protocols, Digital Transactions, Security Analyses.

196. Impact Analysis Of Communication Overhead In Noc Based Dnn Hardware

Accelerators

Ms. Pushpalatha B, It, Assistant Professor Tisha Y, It, Ug Student

Abstract:

This research conducts an impact analysis of communication overhead in Network-on-Chip (NoC) based Deep Neural Network (DNN) hardware accelerators. Hardware accelerators play a crucial role in enhancing the performance of DNNs, and the on-chip communication infrastructure significantly influences their efficiency. The study focuses on assessing the impact of communication overhead on the overall performance of NoC-based DNN accelerators. The research involves modeling and analyzing communication patterns, latency, and bandwidth requirements within the NoC architecture during DNN inference tasks. Through simulations and performance evaluations, the study quantifies the impact of communication overhead on factors such as throughput, latency, and energy efficiency in NoC-based DNN hardware accelerators. The outcomes of this research contribute to the optimization of on-chip communication in DNN hardware accelerators, providing insights into mitigating communication-related bottlenecks and enhancing overall system performance.

Keywords: Impact Analysis, Communication Overhead, NoC, DNN Hardware Accelerators, On-Chip Communication, Latency, Bandwidth, Performance Optimization.

197. A Study On Grievance Redressal Mechanism With Special Reference To Apollo Hospitals Trichy

¹Miaipiya. N Assistant Professor²Ajithkumar. S Ii Mba

³Gopalakrishnan. A Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

Employee Grievances Transpire In Each & Every Workplace. To Handle The Grievances Was A Very Big And Challenging Task And That Too It Was Very Common In Hospital Industry Due To Its Nature Of Stressful Job. It Was Very Important To Understand How Grievances Were Handled In Hospital Industry And Also What Was The Process Followed In Managing The Grievances. Grievance May Be Of Any Kind Of Dissatisfaction With Regard To Pay, Promotion, Suspension, Working Condition Etc. This Study Focused On Understanding The Effectiveness Of Grievance Handling Mechanism In Tertiary Care Hospitals In Cochin From The Perspective Of Employees. The Objective Of The Study Was To Find The Effectiveness Of Grievance Handling Mechanism Being Followed In Hospitals In Edappally Jurisdiction Of Cochin. Questionnaire Was The Tool To Collect The Data From Employees And Convenience Sampling Is That Grievance Management System Followed In Hospitals Is Very Effective And Most Of The Employees Were Highly Satisfied With The Grievance Management Mechanism Being Followed.

198. A Study On Employee Engagement In A Virtual World

¹Nisha Martina. L Assistant Professor²Pushpanjali. B Ii Mba

³Jenifer. M Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

Remote Working Is A Concept In Which The Employees Do Not Commute Or Travel To The Organizations Place Of Work But Allows The Employees To Work Outside Of The Traditional Office Environment. Employee Engagement Can Be Viewed As An Attitude Of An Employee Employee's A To Be Productive, To Excel And Therefore Be Committed Towards The Organisation. Remote Working Applies To A Variety Of Employees Especially Office Or Desk-Based Workers. This Paper Explores Different Facets Of The Remote Worker's Persona And Provides Recommendations And Practices To Enhance Employee Engagement Of The Employees Working Remotely. Remote Work Culture Is Not A New Concept, But Due To The Current Covid-19 Pandemic Situation There Seems To Be A Rapid Shift Of Many Employees To The Remote Working Model Essentially Working Away From The Traditional Office Ecosystem. This Paper Examines Two Aspects Of Working Remotely, A. In Regular Times B. During A Crisis And In Both These Scenarios How To Keep The Remote Workers Engaged And Motivated To Ensure A Minimum If Not Zero Loss Of Productivity.

Keywords: Image Encryption Scheme, SNOW 3G Algorithm, Image Security, Encryption Strength, Computational Efficiency, Cryptographic Attacks


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

199. Impact Of Social Media Marketing On Brand Loyalty In SmartPhones Industries

In India

¹Dr. Thyagarajan.B Professor ²Ajithkumar .S Ii Mba

³Sadan Husan.H Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

In The Light Of Growing Interest And Usage Of Social Networking Sites, Smartphones, And Internet Availability, This Study Aims To Analyze The Impact Of Social Media Marketing Activities On The Purchase Intentions Of The Customer Via Customer Equity Drivers- Relationship Equity, Value Equity And, Brand Equity In The Context Of The Smartphone Industry. An Online Survey Was Conducted With A Total Of 343 Respondents Who Were Active Users Of Social Media. The Collected Data Were Analyzed Using Structural Equation Modeling. The Findings Of The Study Revealed That Interactivity Was The Most Important Dimension Of Social Media Marketing Activities (Smmas) And Personalization And E-Wom Being The Second One. Smmas Were Found To Have A Significant Impact On Customer Equity Drivers And Value Equity And Brand Equity Were Positively Related To The Purchase Intentions Of The Customers. The Findings Of The Study Will Help Managers To Develop Smma Strategies And Boosting Future Sales By Influencing The Purchase Intentions Of The Customers Through Perceived Smma.

Keywords: Aluminum Alloy 6063, Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing

200. Performance Analysis Of Mutual Fund

¹Sotndarajan.C Associate Professor ²Sakthivel Ii Mba

³VijayDharath.D Ii Mba

Indra Ganesan College Of Engineering Trichy .

Abstract:

Indian Financial System Was Rejuvenated With The Introduction Of Multiple Financial Institutions, Financial Services And Financial Instruments In The Post Lpg Era. This Process Has Opened Doors To The Private Business Entities Also To Start New Financial Institutions And Offer Various Financial Services And Instruments. One Such Institution Was Mutual Funds. Many A Number Of Private Corporate Houses Have Started Mutual Funds Immediately After Government / Sebi Permission. Amount The First Entrants Reliance Mutual Funds Is One And It Has Significant Contributions To The Mutual Fund Services. In The Current Study 10 Top Performing Schemes Offered By Reliance Mutual Funds Are Selected To Make A Comparative Study On The Risk And Return Offered By These Funds. From The Study It Is Observed That Among The Selected Funds Reliance Small Cap Fund Is Considered As A Fund With Moderate Risk As Well As Moderate Returns, Against Which The Reliance Bank Fund Is Considered As High Risk With High Returns.

Key Words : Mutual Funds , Reliance , Risk, Return, Jensen , Sharpe, Treynor



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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandan, Trichy-620 012

201. The Role Of Data Analytics In Hr Decision Making

¹Karthikeyan.B Assistant Professor²Shobana.A Ii Mba

³Juliana Mary.Sli Mba

Indra Ganesan College Of EngineeringTrichy.

Abstract:

Despite The Huge Investment In Data Analytics Tools, The Necessary Conditions Required To Obtain Benefit From Such Investment Deserves Close Investigation. In This Study We Utilize The Knowledge-Based View And Data Analytics Competency Literature To Address Two Important Research Questions: (1) Does Knowledge Sharing Have A Mediating Role On The Impact Of Data Analytics Usage On The Quality Of Firm Decisions?; And (2) What Is The Role Of Data Analytics Competency In Enhancing The Quality Of Firm Decisions Through Increasing Knowledge Sharing? Survey Data Collected From Top And Middle-Level Managers From 133 U.S.-Based Firms Indicates That: The Impact Of Data Analytics Use On The Quality Of Firm Decisions Is Fully Mediated By Knowledge Sharing; The Impact Of Knowledge Sharing On Firm Decision Quality Is Not Significant And It Is Moderated By Data Analytics Competency; Collectively, The Findings Provide A Theory- Based Understanding Of How Data Analytics Use Improves Firm Decision Quality. The Results Also Provide Actionable Guidelines For Firms Regarding The Critical Resources They Need To Invest In Order To Obtain Benefits From Using Data Analytics Tools.

Keywords: Mutual Funds, Comparative Analysis, Scheme Returns, Market Returns, Portfolio Risk.

202. Talent Retention Strategy In The Digital Age

¹Karthikeyan.B Assisazant Professor²Rajeswari.R Ii Mba

³Ranjitha.All Mba

Indra Ganesan College Of EngineeringTrichy

Abstract:

Alongside With The Progressive Globalization And Increased Competition, The Labor Market Is Exposed To High Employee Turnover. Particularly, Organizations Face The Loss Of Highly Skilled Employees As Well As High Turnover Costs. In The Coming Decades, The Retention And Development Of Competent Employees Is A Critical Challenge Arising In Human Resource Management. There Are Various Reasons Influencing Employee Turnover Intention, Leadership As One Of The Major Factors Because It Strongly Affects The Relationship Between Employer And Employee. This Study's Aim Is To Investigate The Impact Of Leadership On Employee Retention And To Provide Essential Guidelines For Leaders To Improve Employee Retention Considering The Cultural Aspect In East Asia. Essential Results Reveal A Comprehensive Employee Retention Framework And Identify Core Aspects A Leader Needs To Regard According To The Viewpoints Of The Participants. The Findings Highlight Motivational Factors And Managerial Competencies Such As Emotional Intelligence, Communication And Transformational Leadership Style As Prime Concern To Effectively Retain Employees. More Importantly, A Leader's Role Is To Convey Emotions, Such As Passion And Enthusiasm And To Inspire Followers Achieving Their Goals.

Keywords: Leadership, Leadership Styles, Employee Retention, Job Satisfaction.

203. Skill Development And Continuous Learning

¹Guna .Vs Assistant Professor ²Shophia. Escuder.G Ji Mba
Ynsiya Sahayrani,Aji Mba
Indra Ganesan College Of EngineeringTrichy

Abstract

The Era Is Marked With A Paradoxical Situation Wherein The Students Blooming Out Of Academia Finds Themselves Ultimately Unfit For Industry. The Workforce Is Under Constant Stress In The Dynamic, Disruptive And Vuca World Of Work. The Need Of The Hour Is Skill Development To Bridge The Skill Gap And Be Future Ready. The Researchers Have Made A Literature Review Of Skill Development In India And Identified That Skill Gaps Are A Pressing And Critical Issue. The Need To Resolve The Skill Gaps Is Evident Across Industries And Is More Relevant Than Ever Before. The Demographic Advantage Of India Can Be Capitalized Only When The Workforce Is Trained And Prepared With Contemporary And Future Skill-Sets. It Is Extremely Important To Focus On Advancement Of Skills That Are Relevant To The Emerging Economic Development So That India Can Transform Into A Knowledge Economy And Can Also Meet The Global Skill Demands

Keywords: Bamboo Fiber, Epoxy Resin, Composite Material, Material Characterization, Mechanical Testing

204. Study On Effects Of Pricing Strategies On Consumer Behavior And Brand Image In The Construction Equipment Industry

¹Dr.Thiyagarajan. BProfessor ²Sathish.S Ji Mba
³Arunachalam.Cli Mba
Indra Ganesan College Of EngineeringTrichy

Abstract:

Despite The Wide Use Of Reputational Mechanisms Such As Ebay's Feedback Forum To Promote Trust, Empirical Studies Have Shown Conflicting Results As To Whether Online Feedback Mechanisms Induce Trust And Lead To Higher Auction Prices. This Study Examines The Extent To Which Trust Can Be Induced By Proper Feedback Mechanisms In Electronic Markets, And How Some Risk Factors Play A Role In Trust Formation. Drawing From Economic, Sociological, And Marketing Theories And Using Data From Both An Online Experiment And An Online Auction Market, We Demonstrate That Appropriate Feedback Mechanisms Can Induce Calculus-Based Credibility Trust Without Repeated Interactions Between Two Transacting Parties. Trust Can Mitigate Information Asymmetry By Reducing Transaction-Specific Risks, Therefore Generating Price Premiums For Reputable Sellers. In Addition, The Research Also Examines The Role That Trust Plays In Mitigating The Risks Inherent In Transactions That Involve Very Expensive Products.

Keywords: Aluminum Alloy 6063, Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mankandam, Trichy-620 012

205. The Impact Of Financial Reporting On Investors Decisions In The Stock Market

¹Nisha Martina.L Assistant Professor²Sundhar.Rk Ii Mba

³Eblorajl Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

Financial Reporting Quality Has Been Said To Play An Important Role In Reducing Information Asymmetry. Thus, Firms With High Financial Reporting Quality May Enhance More Investors' Decision. Hence, The Basic Objective Of This Study Is To Determine Whether Earnings Quality Influence Investors' Decision. The Sample Consisted Of 10 Manufacturing Companies Listed On The Nigerian Stock Exchange Market. The Study Period Is 5 Years (2010-2014). Data On Accrual Quality, Volume Of Investment, Size, Age And Growth Rate And Earnings Per Share Were Drawn From The Published Annual Report And Accounts Of The Sampled Companies. Correlation Matrix, Vector Auto Regressive Estimation And Pooled Ols Model Were Employed For The Analysis. Also, Wooldridge Test For Autocorrelation In Panel Data Indicates No First-Order Autocorrelation, Showing A P-Value Of 0.3642. We Calculated Accruals Quality Based On The Modified Accrual Model Proposed By Mac Nichols In 2002. In This Paper, The Absolute Value Of Residual Error Represents The Financial Reporting Quality. This Threshold Is Based On The Idea That Accruals Reduce The Smoothing Initiated By The Change In The Cash Flow And Thus Increase The Earnings Awareness. The Study Finds Evidence Of A Positive Association Between Investors' Decision And Financial Reporting Quality.

Keywords: Quality; Size; Information; Asymmetry; Financial Reporting; Accrual

206. An Analysis Of The Effects Of Tax Policies On Small Business Owners

¹Soundarajan.C Associate Professor²Gomathi.M Ii Mba

³Sujitha J.C Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract

The Mortality Rate Of Small And Medium Enterprises Which Make Up 95% Of The Economy Is Very High And These Small And Medium Enterprises Serve As Source Of Employment Generation; Innovation, Competition, And Economic Dynamism In The Development Of Nigerian Economy. Tax Policy Is One Of The Factors That Constitute The Small Businesses' Economic Environment. Therefore, The Objective Of This Study Impact Analysis Of Tax Policy And The Performance Of Small And Medium Scale Enterprises In Nigerian Economy Is To Investigate Impact Of Tax Policy On The Performance Of Small And Medium Scale Enterprises In Nigerian Economy. Descriptive Survey Research Design Was Adopted. The Paper Therefore Recommended That The For Small And Medium Enterprises By The Three Tiers Of Government In Nigeria; Government Should Promulgate A Policy That Will Help To Avoid Illegal Taxes, Such As Community Levy, Boys Or Youth Levy And As Well As Association Or Union Levy.

Keywords: Riser Design, Sand Casting, Solidification, Shrinkage Defects, Casting Quality, Metallurgical Analysis, Optimization.

207. An Individual Perception And Consumer Behavior On Mutual Funds

¹Dr.Thiyagarajan.B Professor ²Karunanithi.Pii Mba
³Kumaresan.G Ti Mba
Indra Ganesan College Of Engineering Trichy

Abstract:

A Mutual Fund Is An Investment Instrument That Brings Funds From Different Buyers And Facilitates In Investing The Funds In Bonds, Short-Term Money-Market Instruments, Stocks And Other Securities Or Assets Are Few Combination Of Investments. The Primary Goal Behind Investment In Mutual Fund Is To Earn Goods Return With Comparatively Low Risk. The Main Objective Of This Research Is To Identify Buyers' Preference Towards Mutual Fund In Secunderabad Metropolitan City. By Using In Structured Questionnaire, Description Statistical Tools Like Chi-Square Test Have Been Used For Analysing The Data. The Findings From This Research Are That The Most Of The Buyers Are Doubtful To Invest The New Age Investment Like Mutual Funds.

Keywords: Aluminum Alloy 6063, Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing

208.A Study On The Impact Of Electronic Payment Systems On Financial Inclusion In Developing Countries

¹Guna. Va Assistant Professor ²Manivel.M Ii Mba
³Praveenkumar. Ti Mba
Indra Ganesan College Of Engineering Trichy

Abstract

The Covid-19 Pandemic Revolutionizes Digital Financial Services, And Hence Digital Financial Inclusion Is Essential To Ensure Everyone Can Access Digital Financial Services And Thus Promote Sustainable Economic Growth. The Development And Activities Promoting Digital Financial Inclusion Must Align And Help Attain 2030 Sustainable Development Goals (Sdgs). While The Pandemic Is Anticipated To Increase The Usage Of Digital Financial Services, It Has Also Created Challenges For Certain Countries. Hence, A Systematic Literature Review Explores Digital Financial Inclusion Across Countries. This Research Finds That Developing Countries, Mainly Asian Countries, Embrace And Improve Digital Financial Inclusion To Help Reduce Poverty. Digital Infrastructure, Simplifying The Complicated Banking Procedures, And Stressing The Importance Of Financial Education, Enabling The Smooth Implication Of Digital Financial Inclusion Across Countries.

Keywords: Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing

209. A Study On Ethics And Compliance In Hr Portals

¹Minipriya.N Assistant Professor²BharathiPriya.R Ii Mba

³Dhanishka.R Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract

Many Large Corporations Now Have Formal Programs For Managing Ethical Behavior And Legal Compliance. But The Often Minor Role Of Human Resources (Hr) In Companies' Ethics Management Efforts Is Problematic. This Is Because Ethics Management Efforts Are Likely To Raise Questions Of Fairness, And Trigger A Fairness Heuristic Among Employees That Can Generate Important Outcomes For The Ethics Program Specifically And The Organization Generally. Relying On Research On Fairness In Organizations And Corporate Ethics Practices, We Explain Why The Extensive Involvement Of Hr In Corporate Ethics Programs Is Important To The Perceived Fairness, And Thus The Likely Outcomes (E.G., Employee Commitment), Of Those Programs.

Keywords: Aluninum Alloy 6063, Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing

210. Impact Of Employer Branding On Recruitment

¹Nisha Martina. L Assistant Professor²Chellammal.M Ii Mba

Shi Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

Retaining Talented Employees Is The Priority Of Many Organizations And It Is The Key Differentiator Of Human Capital Management. Even Major It Companies Today Are Facing The Challenge Of Retaining Their Talent Competes In The Global Markets. As People, Intellectual Capital And Talent Are Ever More Critical To Organizational Strategic Success And Existence Of An Organization, In The Current Competitive Business Environment, Retention Of Highly Talented Employees Is Very Important As They Contribute Positively In Improving The Organizational Productivity. Thus, Companies Are In Search Of Effective Mechanisms For Increasing The Retention Rate In The Organizational. Therefore, The Perception Or The Values That An Employee Gives To An Employer Is Quite Important And That The Organizations Are Also Focusing On Adding Up A New Employee Experience. Hence The Analysis Of The Dimensions Of Employer Branding On The Employee Retention Is Quite Significant.

Keywords:- Employer Branding, Employee Retention


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

211. Impact Of Smart Wearable Devices Among College Going Students

¹Karthikeyan. B Assistant Professor²Dhanushya.T Ii Mba

³Pushpanjali.D Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

There Is A Difference In The Way Community Perceive The Security And Privacy In Smart Wearable Medical Devices. For Example, Some People Think It Is Ok For Smart Wearable Medical Devices To Collect Their Data's And Sharing With Third Parties While Others Might Be Concerned. Some Users Are Skeptical About The Use Of These Devices For Different Reasons. This Study Investigates Some Importance Aspect Of The Smart Wearable Medical Device Usability, How College Students Perceive Privacy On Smart Wearable Medical Devices, The Lack Of Due Diligence In The Security And Privacy Of These Devices, The Necessary Privacy Controls, How Much College Students Understand And Are Aware Of How Their Data Is Collected And Used, And The Results Show That More Than 50% Of The Respondents Do Not Perceive The Security And Privacy Issues Or Transmitted From Their Device, How This Information Is Used, And Where This Information Is Stored. The Result Indicates That, They Are Concern About Their Data, But They Do Not Have Full Control Over Who Have Access To Their Data With This, Their Data Is Vulnerable To Attacks. Finally, We Identified And Suggested Some Future Research Directions For Using The Findings Of This Study To Raise Awareness About Security And Privacy Risks In Smart Wearable Medical Devices.

212. Comparative Study Of Mutual Fund Returns And Insurance Returns

¹Soundarajan.C Associate Professor²Renuka.M Ii Mba

³Jothik.R Ii Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

The Mutual Fund Industry Is One Of The Rapidly Growing Industries In The Stock Exchange Market Where It Attracts The Investors With Its Diversification Nature. In Mutual Funds, The Investment Is Diversified Within The Various Equities Included In That Fund. It Controls The Risk And Distributes The Moderate Returns Where Investors Can Expect Minimum Returns From The Fund. In This Study 14 Open-Ended, Growth-Oriented Funds Are Considered For The Study. The Data Was Collected For The Period Of 2014 To 2018 (Five Years) Where Quarterly Net Asset Values Of The Selected Funds Are Collected To Calculate The Return And Risk Of Those Schemes And To Compare The Same With The Benchmark Index. In This Study, Bse Sensex Is Considered As The Benchmark Index. When It Comes To The Risk Only One Scheme Had Better Risk Rate Than The Market Risk. It Means The Market Had A Lower Risk When Compared To All The Schemes Selected In This Study. It Indicates That The Schemes Are Facing Diversification Problems Where The Selected Equities Of Those Schemes Are Not Satisfying The Diversification Nature Of The Mutual Funds.

Keywords: Mutual Funds, Comparative Analysis, Scheme Returns, Market Returns, Portfolio Risk.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

213.A Study On Generational Differences In The Workplace

¹Guna .Vs Assistant Professor²Kiruthiga.S II Mba

³Chindrala.Vli Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

Popular Stereotypes Suggest That Generational Differences Among Workers Present Challenges For Workplace Managers. However, Existing Empirical Research Provides Mixed Evidence For Generational Differences In Important Values And Attitudes. The Current Study Extends Generational Effects Research By Examining Differences In Actual Workplace Behaviors. Drawing From Commonly Held Generational Stereotypes, The Authors Hypothesized That Baby Boomers Would Exhibit (Hypothesis 1) Fewer Job Mobility Behaviors And (Hypothesis 2) More Instances Of Compliance-Related Behaviors In Comparison With Both Genxers And Millennials, While (Hypothesis 3) Genxers Would Be Less Likely To Work Overtime In Comparison With Baby Boomers And Millennials. A Sample Of 8,040 Applicants At Two Organizations Was 2, But The Effect Sizes For These Relationships Were Small. It Appears The Effects Of Generational Membership On Workplace Behavior Are Not As Strong As Suggested By Commonly Held Stereotypes. Implications For Future Research And Practice Are Discussed.

Keywords: Gas Tungsten Arc Welding, Al6063-T6 Aluminum Alloy, Mechanical Properties, Microstructural Analysis, Fractographic Analysis, Weld Quality

214.A Study On The Changing Landscape Of Employee Benefits

¹Minipriya.N Assistant Professor²Neelambari.L II Mba

³Neelambari.L S II Mba

Indra Ganesan College Of Engineering Trichy

Abstract:

This Article Examines The Dramatic Changes In Employee Rewards Since The Center For Effective Organizations (Ceo) Was Created 35 Years Ago. The Article First Examines Ten Major Changes In Employee Rewards, Including A Reorientation Toward The External Labor Market; Attempts To Become More Strategic; New Rewards Models; Changes In Base Pay, Benefits, And Incentive Practices; And Changes In Governance. Next, It Considers Macro Factors Explaining These Changes, Including Labor Supply And Demand, Workforce Composition, Competitive Pressures, Globalization, The Decline Of Manufacturing, Diminishing Unions, Technology, And Leader Direction For Rewards, An Investment Perspective On Rewards, And The Radical Shift In Rewards Mix From Benefits Incentives For Performance And Development.

Keywords: Analysis, Scheme Returns, Market Returns, Portfolio Risk.

215. Title: "Investigation Of Mechanical Behavior Of Al6061 T6-Sic B4c Metal Matrix Composites Using Stir Casting Process"

¹Mr. Rameshbabu R, ²Mr. Devarajan C, ³Mr. Vinoth U,

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract: This Research Investigates The Mechanical Properties Of Al6061 T6-Sic B4c Metal Matrix Composites Produced Via The Stir Casting Process. Through A Comprehensive Examination Involving Material Characterization, Tensile, Hardness, And Microstructural Analyses, The Influence Of Sic And B4c Particles On The Mechanical Behavior Is Explored. The Study Aims To Elucidate The Composite's Response Under Varying Loading Conditions, Offering Insights Into Its Industrial Applicability And Structural Integrity. Results Obtained Are Expected To Contribute To Advancements In Composite Material Design And Engineering Applications.

Keywords: Al6061 T6, Sic B4c, Metal Matrix Composites, Stir Casting Process, Mechanical Properties

216. Title: "Investigation Of Mechanical Properties Of Aa6063 T6 Welds Using Hcher Tool In Friction Stir Welding"

¹Mr. Rameshbabu R, ²Mr. Pugazhenth V, ³Mr. Suravanan A

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract: This Study Delves Into Evaluating The Mechanical Properties Of Aa6063 T6 Metal Welds Achieved Through Friction Stir Welding Utilizing An Hcher Tool. Through Comprehensive Tensile Testing, Microstructural Analysis, And Hardness Assessments, The Integrity And Strength Of The Welds Are Systematically Analyzed. The Research Aims To Ascertain The Effectiveness Of The Hcher Tool In Achieving Robust Weld Joints And Understanding The Microstructural Changes Post-Friction Stir Welding. The Findings Aim To Contribute To The Optimization Of Friction Stir Welding Techniques For Aa6063 T6, Providing Valuable Insights Into Weld Quality And Performance.

Keywords: Aa6063 T6, Friction Stir Welding, Hcher Tool, Mechanical Properties, Microstructural Analysis



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manakapalam, Trichy-620 012

217. Optimization Of Drilling Parameters For Ss316 Using Taguchi Method

¹Mr. Rameshbabu R, ²Mr. Saravana Kumar K, ³Mr. Mariyappan A

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract: This Research Focuses On Optimizing Drilling Parameters For Ss316 Via The Taguchi Method. Through Systematic Experimentation And Statistical Analysis, The Study Identifies The Optimal Combination Of Cutting Speed, Feed Rate, And Drill Diameter To Enhance Machining Efficiency And Surface Quality. The Investigation Aims To Contribute To The Improvement Of Drilling Processes For Ss316, Providing Insights Into Parameter Optimization For Enhanced Manufacturing Practices And Industrial Applications.

Keywords: Drilling Parameters, Ss316, Taguchi Method, Machining Efficiency, Surface Quality

218. Title: "Maltitol-Based Nano Al₂O₃ Pcm For Enhanced Solar Thermal Energy Storage"

¹Mr. Rameshbabu R, ²Mr. Nirmalkumar P, ³Mr. Prabhakaran R.

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

Solar Thermal Energy Storage Systems Represent A Pivotal Facet Of Sustainable Energy Solutions, And This Study Introduces A Pioneering Phase Change Material (Pcm) By Combining Maltitol With Nano Al₂O₃, Tailored Specifically For Optimal Solar Thermal Energy Storage Applications. The Research Encompasses A Comprehensive Investigation, From Material Synthesis And Characterization To Performance Evaluations, Aimed At Assessing The Efficacy And Efficiency Of This Innovative Pcm. The Fabrication Process Integrates Nano Al₂O₃ Particles Into The Maltitol Matrix To Significantly Enhance Its Thermal Properties. Advanced Analytical Techniques Such As Scanning Electron Microscopy (Sem) And Differential Scanning Calorimetry (Dsc) Elucidate The Pcm's Microstructure, Thermal Behavior, And Phase Transition Attributes. Extensive Assessments Of Thermal Conductivity, Cyclic Stability, And Phase Transition Characteristics Across Varying Temperature Ranges Showcase The Pcm's Promising Performance In Efficiently Storing And Releasing Thermal Energy. This Groundbreaking Maltitol-Based Nano Al₂O₃ Pcm Exhibits Significantly Improved Thermal Properties, This Pcm Shows Promise In Effectively Harnessing And Utilizing Solar Energy. The Research Aims To Propel Pcm Technology, Contributing To The Advancement Of Sustainable Solar Thermal Energy Storage Systems, And It Presents A Significant Stride Toward Fostering A More Environmentally Conscious Energy Landscape.

Keywords: Maltitol, Nano Al₂O₃, Phase Change Material, Solar Thermal Energy Storage, Thermal Conductivity, Sustainable Energy Solutions


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikantam, Trichy-620 012

219. Sisal Fiber Carbon Strengthened Composite Pcms For Enhanced Thermal Energy Storage

¹Mr. Ramcshebabu R, ²Mr. Anoop S.S, ³Mr. Arjun R

Assistant Professor, 2,3 Ii Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Study Investigates The Potential Of Sisal Fiber Carbon-Strengthened Composite Phase Change Materials (Pcms) For Advanced Thermal Energy Storage Applications. The Research Involves A Thorough Exploration Of Composite Material Synthesis, Characterization, And Performance Assessments To Ascertain The Feasibility And Efficacy Of This Innovative Pcm. Initial Steps Include The Fabrication Process, Incorporating Sisal Fibers Reinforced With Carbon Into The Pcm Matrix To Enhance Its Structural Integrity And Thermal Properties. Utilizing Diverse Characterization Techniques Such As Microscopy, Differential Scanning Calorimetry (Dsc), And Mechanical Testing, The Study Comprehensively Analyzes The Composite's Microstructure, Thermal Behavior, And Mechanical Strength. Detailed Assessments Of Thermal Conductivity, Cyclic Stability, And Heat Storage/Release Capabilities Under Varying Temperature Conditions Aim To Showcase The Pcm's Potential For Efficient Thermal Energy Storage. This Research Endeavors To Present Sisal Fiber Carbon-Strengthened Composite Pcms As A Promising Solution For Superior Thermal Energy Storage Applications, Contributing To Advancements In Sustainable Energy Technologies And Paving The Way For More Effective Thermal Energy Storage Systems.

Keywords: Sisal Fiber, Carbon Strengthened Composite, Phase Change Material, Thermal Energy Storage, Thermal Conductivity, Sustainable Energy Solutions

220. Title: "Comparative Analysis Of Severe Plastic Deformation Using E Cap And Casting Processes"

¹Dr. Bharathi Raja S, ²Mr. Balakrishnan N, ³Mr. Vaisakh C.R

Assistant Professor, 2,3 Ii Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Study Conducts A Comparative Investigation Between Severe Plastic Deformation Via Equal Channel Angular Pressing (E Cap) And Conventional Casting Processes. The Research Delves Into Material Characterization, Mechanical Property Evaluations, And Microstructural Analyses To Discern The Distinctive Attributes Of These Manufacturing Techniques. Through Rigorous Mechanical Testing, Microscopy, And Structural Assessments, The Study Aims To Elucidate The Material Properties, Structural Alterations, And Performance Differences Induced By Severe Plastic Deformation Compared To Casting Processes. The Findings Seek To Provide Valuable Insights Into The Structural Modifications And Mechanical Behavior Achieved Through E Cap And Casting, Aiding In Optimizing Material Processing Techniques For Enhanced Industrial Applications.

Keywords: Severe Plastic Deformation, E Cap, Casting Process, Material Characterization, Mechanical Properties, Microstructural Analysis


PRINCIPAL

Indra Ganesan College of Engineering
K. Palay, Madurai Main Road
K. Palayam, Tiruchy-620 012

221. Title: "Emission Control In Ic Engines Through Zeolite Integration For Improved Flow Distribution"

¹Dr. Bharathi Raja S, ²Mr Balakumaran V, ³Mr. Malakolundhu M

1assistant Professor, 2,3 li Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Research Investigates Emission Control In Internal Combustion (Ic) Engines Through The Integration Of Zeolite-Based Systems To Achieve Uniform Flow Distribution While Reducing Emissions. The Study Employs Experimental Analysis And Flow Simulations To Evaluate The Effectiveness Of Zeolite In Mitigating Emissions And Optimizing Flow Uniformity Within The Engine. By Implementing Zeolite-Based Systems, The Research Aims To Improve Emission Control While Ensuring A More Balanced And Efficient Distribution Of Airflow Within The Engine's Combustion Chamber. The Findings Aim To Contribute Insights Into Enhancing Engine Performance, Reducing Emissions, And Achieving Better Airflow Uniformity In Ic Engines Through Innovative Zeolite-Based Solutions.

Keywords: Emission Control, Ic Engine, Zeolite Integration, Flow Distribution, Airflow Uniformity

222. Characterization Of Sugarcane Bagasse-Epoxy Resin Composite Material

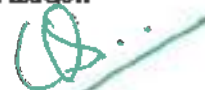
¹Dr. Bharathi Raja S, ²Mr. Mohammed Hussain S, ³Mr. Salman T

1assistant Professor, 2,3 li Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Study Extensively Examines The Composite Material Derived From Sugarcane Bagasse And Epoxy Resin, Aiming To Characterize Its Structural, Mechanical, And Morphological Properties. Through Comprehensive Material Characterization Techniques Encompassing Scanning Electron Microscopy (Sem), Mechanical Testing, And Morphological Analyses, The Research Scrutinizes The Composition And Performance Of The Composite. The Investigation Sheds Light On The Material's Strength, Durability, And Microstructural Features, Emphasizing Its Potential As A Sustainable And Robust Composite Material For Various Engineering Applications.

Keywords: Sugarcane Bagasse, Epoxy Resin, Composite Material, Characterization



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

223. Characterization Of Bamboo Fiber-Epoxy Resin Composite Material

¹Dr. Bharathi Raja S, ²Mr. Anand D, ³Mr. Elias Kiran J

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Research Entails A Thorough Analysis Of Composite Material Derived From Bamboo Fibers And Epoxy Resin, Focusing On Comprehensive Material Characterization, Mechanical Testing, And Morphological Analyses. Through Advanced Microscopy Techniques, Mechanical Assessments, And Structural Analyses, The Study Aims To Elucidate The Composite's Composition, Mechanical Strength, And Microstructural Characteristics. The Investigation Aims To Provide Insights Into The Viability Of Bamboo Fiber-Based Composites In Engineering Applications, Highlighting Their Potential As Sustainable And Resilient Materials.

Keywords: Bamboo Fiber, Epoxy Resin, Composite Material, Material Characterization, Mechanical Testing

224. Title: "Experimental Investigation Of Sisal Fiber Reinforcement In Epoxy Resin Composites"

¹Dr. Bharathi Raja S, ²Mr. Vimal Kumar S, ³Mr. Girish P

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract: This Experimental Study Explores The Behavior And Characteristics Of Sisal Fiber Reinforcement Within Epoxy Resin Composites. Through A Series Of Comprehensive Mechanical Tests, Morphological Analyses, And Performance Assessments, The Research Aims To Ascertain The Structural Integrity, Strength, And Potential Applications Of Sisal Fiber-Reinforced Epoxy Composites. The Investigation Involves Varying Fiber Lengths, Orientations, And Concentrations To Analyze Their Impact On The Composite's Mechanical Properties And Structural Behavior. The Findings Offer Valuable Insights Into The Feasibility And Applicability Of Sisal Fiber As A Reinforcement Material In Epoxy Matrices, Contributing To The Development Of Sustainable And High-Performance Composite Materials For Diverse Engineering Applications.

Keywords: Sisal Fiber, Epoxy Resin Composites, Mechanical Testing, Morphological Analysis, Reinforcement Materials



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikondam, Trichy-620 012

225. Title: "Analysis Of Mechanical Properties In Gas Tungsten Arc Welded Aluminium Alloy (Al6063-T6)"

¹Mr. Samuel M, ²Mr. Arunkumar S, ³Mr. Balasubramani P

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

Gas Tungsten Arc Welding (GTA) Plays A Pivotal Role In The Fabrication Of Lightweight And Corrosion-Resistant Aluminum Alloys, Such As Al6063-T6, Widely Used In Aerospace, Automotive, And Structural Applications. This Study Presents A Comprehensive Analysis Focusing On The Mechanical Properties Of GTA-Welded Joints In Al6063-T6 Aluminum Alloy. Through A Systematic Approach Encompassing Tensile Testing, Microstructural Examinations Using Optical And Electron Microscopy, Hardness Evaluations, And Fractographic Analysis, The Mechanical Behavior And Integrity Of The Welded Joints Were Extensively Investigated. Tensile Testing Of The Weld Specimens Revealed Crucial Insights Into The Strength And Ductility Of The Welded Joints, Providing Data For The Determination Of Ultimate Tensile Strength, Yield Strength, And Elongation, Essential Parameters For Structural Applications. Microstructural Analyses Unveiled The Intricate Details Of The Weld Zone, Heat-Affected Zone (HAZ), And Base Metal, Elucidating The Evolution Of Grain Structure. Presence Of Weld Defects (Such As Porosity, Solidification Cracks, And Intermetallic Phases), And Their Influence On Mechanical Properties. Hardness Measurements Across The Weld Cross-Sections Aided In Understanding The Variations In Material Properties, Highlighting The Effects Of Thermal Gradients And Metallurgical Transformations. Fractographic Analysis Of Failed Specimens Post-Tensile Testing Provided Valuable Information On Failure Modes, Crack Initiation, And Propagation Within The Weld Joints. The Study Findings Selection, Fostering The Development Of Robust Not Only Shed Light On The Mechanical Behavior And Performance Of GTA-Welded Al6063-T6 Aluminum Alloy But Also Offer Crucial Insights Into Optimizing Welding Parameters, Heat Input, And Post-Weld Treatments To Enhance Weld Quality And Mechanical Properties. This Comprehensive Analysis Serves As A Foundational Resource, Guiding Advancements In Welding Techniques And Material Selection, Fostering The Development Of The Variations In Material Properties, Highlighting The Effects Of Thermal Gradients And Metallurgical Transformations. Fractographic Analysis Of Failed Specimens Robust And Reliable Welded Structures In Various Industrial Sectors, Ensuring Heightened Safety And Structural Integrity.

Keywords: Gas Tungsten Arc Welding, Al6063-T6 Aluminum Alloy, Mechanical Properties, Microstructural Analysis, Fractographic Analysis, Weld Quality



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road,
Manikandam, Trichy-620 017

226. Analysis Of Mechanical Properties In Welded Aluminium Alloy 6063

¹Mr. Samuel M, ²Mr. Kanman V, ³Mr. Siva M

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

The investigation into the mechanical properties of welded aluminum alloy 6063 serves as a fundamental analysis for understanding the behavior of this material after undergoing welding processes. This study delves into the mechanical characteristics, including tensile strength, yield strength, elongation, hardness, and impact toughness, focusing on welded joints in aluminum alloy 6063. By employing standardized mechanical tests such as tensile testing, hardness evaluation, and impact testing, this research aims to uncover the alterations in mechanical properties induced by the welding process. Microstructural analyses using microscopy techniques provide critical insights into the changes occurring in the weld zone, heat-affected zone (HAZ), and base metal. Through detailed examination, the study elucidates any variations in grain structure, presence of defects, and alterations in material properties across the welded joints. The outcomes of this analysis contribute to a comprehensive understanding of how welding impacts the mechanical integrity and properties of aluminum alloy 6063, aiding in optimizing welding parameters, selecting suitable welding techniques, and devising post-weld treatments for achieving desired mechanical performance. The findings are crucial for industries relying on aluminum alloy 6063, guiding the enhancement of weld quality and structural integrity in various applications, including construction, automotive, and aerospace.

Keywords: Aluminum Alloy 6063, Welding, Mechanical Properties, Microstructural Analysis, Tensile Testing, Hardness Evaluation, Impact Testing

227. Title: "Design And Analysis Of Chassis In Heavy Vehicles"

¹Mr. Samuel M, ²Mr. Deepak B, ³Mr. Vignesh R

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

Designing and analyzing the chassis in heavy vehicles represents a critical aspect of ensuring structural integrity, durability, and performance under rigorous operational conditions. This comprehensive study focuses on the intricate process of designing and analyzing heavy vehicle chassis various parameters such as material selection, load-bearing capabilities, stress distribution, and structural stability modifications, reinforcements, and material enhancements on the overall performance and longevity of heavy vehicle chassis. The outcomes of this analysis provide crucial insights and guidelines for engineers and manufacturers to that elife in heavy vehicles across transportation sectors, including commercial trucks, buses, and off-road vehicles.

Keywords: Chassis Design, Heavy Vehicles, Finite Element Analysis, Structural Integrity, Load-Bearing Capacity, Stress Analysis, Durability, Safety Standards


PRINCIPAL,

Indra Ganesan College of Engineering

26, Malley, Madurai Main Road

Chennai-600 026, India

228. Title: Enhancing Air Conditioning System Performance Through Retrofitted Condenser Integration

¹Mr. Samuel M, ²Mr. Kasim K, ³Mr. Vignesh T

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

The Constant Quest For Energy Efficiency And Enhanced Performance In Air Conditioning Systems Has Led To The Exploration Of Retrofitting Existing Systems With Innovative Components. This Study Investigates The Integration Of Retrofitted Condensers In Traditional Air Conditioning Setups To Improve Overall System Efficiency And Cooling Performance. Through Experimental Analysis And Simulation Studies, This Research Evaluates The Impact Of Retrofitting Condensers On Energy Consumption, Cooling Capacity, And Environmental Sustainability. Various Configurations And Types Of Retrofitted Condensers Are Analyzed To Determine Their Effectiveness In Different Operational Conditions And Climates. The Findings Reveal Significant Improvements In System Efficiency And Cooling Performance With The Integration Of Retrofitted Condensers. This Retrofitting Approach Showcases Promising Results In Terms Of Cost-Effectiveness And Ease Of Implementation.

Keywords: Air Conditioning, Retrofitting, Condenser, Performance Improvement, Energy Efficiency, Cooling Capacity, Environmental Sustainability.

229. Title: "Optimizing Cutting Parameters In Cnc Vertical Milling Machine Using Simulated Annealing Algorithm"

¹Mr. Samuel M, ²Mr. Arunkumar K, ³Mr. Sabarikirshna G

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indraganesan College Of Engineering.

Abstract:

This Study Focuses On Optimizing Cutting Parameters In Cnc Vertical Milling Machines Through The Utilization Of A Simulated Annealing Algorithm. Through Algorithmic Simulations, Parameter Adjustments, And Performance Evaluations, The Research Aims To Determine The Optimal Cutting Parameters For Enhanced Machining Efficiency, Improved Surface Finish, And Prolonged Tool Life. The Investigation Endeavors To Contribute Insights Into Employing Simulated Annealing Techniques For Optimizing Cnc Machining Processes, Enabling More Efficient And Effective Manufacturing Practices.

Keywords: Cutting Parameters, Cnc Vertical Milling Machine, Simulated Annealing Algorithm, Machining Efficiency, Surface Finish


PRINCIPAL
Indra Ganesan College of Engineering
RG Vaikay, Madurai Main Road
Mankandava, Trichy-620 01

230. "Innovative Development And Powder Characterization Of Hybrid Reinforced Al Metal Matrix Composites Via Mechanical Alloying"

¹Mr. Guruprakash P, ²Vinothkumar N, ³Venkatesh S

¹Assistant Professor, ^{2,3} II Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Presents A Novel Approach For The Fabrication Of Hybrid Reinforced Aluminum (Al) Metal Matrix Composites (Mmcs) Through The Advanced Technique Of Mechanical Alloying (Ma). The Study Focuses On The Incorporation Of Multiple Reinforcing Phases, Including Ceramic And Carbonaceous Materials, To Enhance The Mechanical And Thermal Properties Of The Al Matrix. The Mechanical Alloying Method Ensures Homogeneous Distribution Of The Reinforcing Phases Within The Metal Matrix, Leading To Improved Synergy Between The Components. Comprehensive Powder Characterization Techniques, Such As X-Ray Diffraction (Xrd), Scanning Electron Microscopy (Sem), And Particle Size Analysis, Are Employed To Evaluate The Microstructural Evolution And Particle Morphology. The Investigation Aims To Optimize The Processing Parameters For Achieving Superior Mechanical Properties And Thermal Stability In The Hybrid Al Mmcs.

Keywords: Hybrid Composites, Aluminum Matrix Composites, Mechanical Alloying, Powder Characterization, Reinforcement, Mechanical Properties, And Thermal Stability.

231. Electromagnetic Button-Operated Gear Shifting Mechanism For Two-Wheelers: Design, Implementation, And Performance Analysis

¹Mr. Guruprakash P, ²Aesmal Thakseen S, ³Anun Kumar S

¹Assistant Professor, ^{2,3} II Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Introduces A Cutting-Edge Gear Shifting Mechanism For Two-Wheelers, Featuring An Innovative Design That Utilizes Electromagnets And A Button-Operated System. The Proposed Mechanism Aims To Enhance Rider Convenience And Safety By Eliminating The Traditional Manual Gear Shifting Process. The System Employs Strategically Placed Electromagnets To Engage And Disengage Gears Seamlessly, Responding To The Rider's Input Through A User-Friendly Button Interface. The Study Explores The Design Considerations, Electromagnetic Actuation Principles, And The Integration Of The Mechanism Into The Existing Two-Wheeler Transmission System. Performance Analysis Includes Assessments Of Response Time, Energy Efficiency, And Reliability Under Varying Operating Conditions. This Research Represents A Significant Step Toward Modernizing And Improving The User Experience In Two-Wheeler Transportation.

Keywords: Electromagnetic Gear Shifting, Two-Wheeler Transmission, Button-Operated Mechanism, Rider Convenience, Gear Engagement, Performance Analysis.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 042

232. "Thermal Distribution Analysis In Brake Drums: A Comprehensive Investigation Of Heat Dissipation And Performance Factors"

¹Mr. Guruprakash P, ²Partha Sarathy A, ³Sambosh Divakar S

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Study Presents An In-Depth Thermal Distribution Analysis Conducted On Brake Drums, Aiming To Understand And Optimize Heat Dissipation Mechanisms In Braking Systems. Thermal Management In Brake Drums Is Crucial For Maintaining Braking Efficiency And Preventing Thermal Degradation. The Research Employs Advanced Thermal Imaging Techniques, Finite Element Analysis (Fem), And Experimental Measurements To Map And Analyze Temperature Distribution Across The Brake Drum During Various Braking Conditions. Factors Such As Material Properties, Geometrical Considerations, And Airflow Dynamics Are Investigated To Assess Their Impact On Thermal Performance. The Findings Contribute Valuable Insights Into Designing Brake Drums With Enhanced Heat Dissipation Capabilities, Ultimately Improving The Overall Braking System Efficiency And Longevity.

Keywords: Thermal Distribution Analysis, Brake Drums, Heat Dissipation, Braking Performance, Finite Element Analysis, Thermal Imaging, Brake System Optimization.

233. Optimization Of Riser Design For Enhanced Efficiency In Sand Casting Processes

¹Mr. Guruprakash P, ²Ansil Frank A, ³Sathishkumar N

Assistant Professor, 2,3 II Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Focuses On The Critical Aspect Of Riser Design In Sand Casting, Aiming To Achieve Optimal Feeding And Cooling Characteristics For Improved Casting Quality And Reduced Defects. The Study Employs Advanced Computational Tools And Simulation Techniques To Analyze The Impact Of Riser Geometry, Size, And Placement On The Solidification Process. The Objective Is To Identify The Most Efficient Riser Configuration That Promotes Uniform Solidification, Minimizes Shrinkage Defects, And Enhances Overall Casting Integrity. Through Systematic Parametric Studies And Experimental Validation, This Research Provides Valuable Insights Into The Design Parameters Influencing Riser Effectiveness, Facilitating The Development Of Guidelines For Achieving The Optimum Riser Design In Sand Casting Processes.

Keywords: Riser Design, Sand Casting, Solidification, Casting Defects, Computational Modeling, Optimization, Casting Quality.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road,
Mankandam, Trichy-620 022

234. "Analysis Of Brittle Fracture In Nodular Cast Iron Diesel Engine Crankshaft: A Comprehensive Study On Material Properties And Failure Mechanisms"

¹Mr. Guniprakash P, ²Balaji R, ³Farook S

Assistant Professor, 2,3 B Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Investigates The Occurrence Of Brittle Fracture In Diesel Engine Crankshafts Made Of Nodular Cast Iron, Aiming To Understand The Underlying Material Properties And Failure Mechanisms. Through A Combination Of Metallurgical Analysis, Mechanical Testing, And Finite Element Simulations, The Study Explores Factors Such As Microstructural Characteristics, Notch Sensitivity, And Loading Conditions That Contribute To Brittle Fracture. Experimental Data, Including Impact Tests And Fractography, Are Used To Identify Critical Points Of Failure And Assess The Fracture Behavior. The Findings Aim To Provide Insights Into The Design And Manufacturing Considerations Necessary To Prevent Brittle Fractures, Ultimately Enhancing The Reliability And Safety Of Nodular Cast Iron Crankshafts In Diesel Engines.

Keywords: Brittle Fracture, Nodular Cast Iron, Diesel Engine Crankshaft, Failure Analysis, Material Properties, Metallurgical Analysis, Finite Element Simulations.

235. Innovative Solutions For Automobile A-Pillar Blind Spot Deduction: A Comprehensive Study On Design And Safety Enhancement

¹Mr. Madhan J, ²sagaputhin S, ³venice Infant Raj V

Associate Professor, 2,3 B Year Students, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Addresses The Critical Issue Of Blind Spots Caused By A-Pillars In Automobiles, Proposing And Evaluating Innovative Solutions To Enhance Driver Visibility And Overall Safety. Through A Combination Of Advanced Optical Technologies, Computational Simulations, And Real-World Testing, The Study Explores Modifications To A-Pillar Designs And Introduces Integrated Systems To Mitigate Blind Spots. The Research Aims To Strike A Balance Between Structural Integrity And Improved Visibility, Considering Factors Such As Material Selection, Geometry Optimization, And The Incorporation Of Smart Technologies. The Findings Offer Valuable Insights For Automotive Manufacturers And Designers Seeking To Minimize Blind Spots Without Compromising Vehicle Safety.

Keywords: A-Pillar Blind Spot, Automotive Safety, Visibility Enhancement, Design Optimization, Driver Assistance Systems, Computational Simulations, Advanced Optics.



PRINCIPAL

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road,

Shankarandasa, Tindivanam-620 011.

236. "Experimental Investigation Of Pvd And Cvd Coated Inserts In Cnc Milling: Performance Analysis And Machining Efficiency"

¹Mr. Madhan J. Associate Professor,

²Ganesh K, ³Satyraj E, Ii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Study Conducts An Experimental Investigation Into The Performance Of Pvd (Physical Vapor Deposition) And Cvd (Chemical Vapor Deposition) Coated Inserts Utilized In Cnc Milling Operations. The Research Involves A Comprehensive Analysis Of Machining Efficiency, Tool Wear Characteristics, And Surface Finish Quality. Through Systematic Experimentation And Data Collection, The Study Aims To Evaluate The Effectiveness Of Pvd And Cvd Coatings In Enhancing Tool Life, Reducing Friction, And Improving Overall Cutting Performance. The Findings Provide Valuable Insights Into The Selection And Optimization Of Coated Inserts For Cnc Milling Applications, Contributing To Advancements In Machining Processes And Tooling Technologies.

Keywords: Pvd Coating, Cvd Coating, Cnc Milling, Tool Wear Analysis, Machining Efficiency, Surface Finish Quality, Cutting Performance.

237. "Enhancement Of Air-Preheater Performance In Thermal Power Stations: Optimization Strategies And Efficiency Improvements"

¹Mr. Madhan J. Associate Professor,

²Shyam Sundar B, ³Ashok Kumar K, Ii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Focuses On Improving The Performance Of Air-Preheaters In Thermal Power Stations, Crucial Components For Enhancing Overall Plant Efficiency. Through A Combination Of Computational Modelling, Experimental Analysis, And Optimization Techniques, The Study Investigates Strategies To Enhance Heat Transfer Efficiency, Reduce Fouling, And Increase Energy Savings In Air-Preheater Systems. Various Design Modifications, Material Considerations, And Operational Parameters Are Explored To Maximize The Heat Exchange Process. The Findings Aim To Provide Practical Insights And Guidelines For Thermal Power Station Operators And Engineers To Optimize Air- Preheater Performance, Thereby Contributing To Increased Energy Efficiency And Reduced Environmental Impact In Power Generation.

Keywords: Air-Preheater, Thermal Power Station, Heat Transfer Efficiency, Fouling Reduction, Optimization Strategies, Energy Savings, Computational Modeling.



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Indra Ganesan College of Engineering

IG Vally, Madurai Main Road

Melakandam, Trichy-621 012

238. "Design And Analysis Of Composite Material Leaf Springs: A Comprehensive Study On Lightweighting And Performance Optimization"

¹Mr. Madhan J, Associate Professor,

²Arumugam T, ³Sheik Mohamed S, U Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Investigates The Design And Analysis Of Leaf Springs Manufactured Using Composite Materials, With A Focus On Achieving Lightweighting And Enhanced Mechanical Performance. The Study Employs A Combination Of Advanced Composite Materials, Structural Analysis, And Finite Element Simulations To Optimize The Leaf Spring's Geometry, Layering, And Overall Composition. Key Factors Such As Strength, Stiffness, And Fatigue Life Are Evaluated To Ensure That The Composite Leaf Springs Meet Or Exceed The Performance Characteristics Of Traditional Metal Counterparts. The Findings Provide Valuable Insights Into The Potential Of Composite Materials For Leaf Spring Applications, Offering A Balance Between Weight Reduction And Structural Integrity For Various Automotive And Industrial Uses.

Keywords: Composite Material, Leaf Spring, Lightweighting, Structural Analysis, Finite Element Simulations, Mechanical Performance, Automotive Applications.

239. "Optimization Of Cutting Parameters In Cnc Turning Machine Using Firefly Algorithm: Towards Enhanced Machining Efficiency"

¹Mr. Madhan J, Associate Professor,

²Balasubramani N, ³Sathya Narayanan B, U Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Study Focuses On The Optimization Of Cutting Parameters In Cnc Turning Processes Through The Application Of The Firefly Algorithm. The Research Aims To Maximize Machining Efficiency By Systematically Adjusting Parameters Such As Cutting Speed, Feed Rate, And Depth Of Cut. The Firefly Algorithm, Known For Its Ability To Efficiently Search For Optimal Solutions In Complex Spaces, Is Employed To Find The Most Favorable Combination Of Cutting Parameters. Through A Combination Of Computational Simulations And Experimental Validation, The Study Evaluates The Impact Of Optimized Parameters On Machining Performance, Including Surface Finish, Tool Wear, And Overall Process Stability. The Findings Offer Valuable Insights Into The Application Of Metaheuristic Algorithms For Cnc Turning Optimization, Contributing To Advancements In Precision Machining And Manufacturing Processes.

Keywords: Cnc Turning, Cutting Parameters Optimization, Firefly Algorithm, Machining Efficiency, Surface Finish, Tool Wear, Metaheuristic Algorithms.

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Indra Ganesan College of Engineering
15 Vally, Madurai Main Road
Mankandam, Trichy-620 012

240. "Experimental Investigation On Cnc Milling Machine For Quality Improvements: Process Optimization And Performance Enhancement"

Mr. Saravankumar C, Assistant Professor,

Sivakumar R, Udayakumar C, II Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Conducts An Experimental Investigation On Cnc Milling Machines To Explore Opportunities For Quality Improvements In Machining Processes. Through Systematic Experimentation, The Study Aims To Optimize Cutting Parameters, Tooling Strategies, And Machining Techniques To Enhance Overall Product Quality. Various Aspects, Including Surface Finish, Dimensional Accuracy, And Tool Life, Are Evaluated To Identify Optimal Conditions For Cnc Milling Operations. The Research Integrates Advanced Measurement Techniques, Statistical Analysis, And Process Optimization Methods To Quantify And Validate The Improvements Achieved. The Findings Provide Valuable Insights Into Enhancing The Quality Of Cnc Milling Operations, Contributing To Advancements In Precision Machining And Manufacturing Practices.

Keywords: Cnc Milling Machine, Experimental Investigation, Quality Improvements, Process Optimization, Machining Performance, Surface Finish, Dimensional Accuracy.

241. Investigating The Impact Of Pulsed Current On Micro And Macro Properties Of Stainless Steel Welds

Mr. Saravankumar C, Assistant Professor,

Azhagudurai A, Shanmuga Kumar M, III Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract:

This Research Delves Into The Influence Of Pulsed Current Welding On The Micro And Macro Properties Of Stainless Steel Welds. Through A Comprehensive Analysis That Includes Microstructure Examination, Mechanical Testing, And Macroscopic Evaluations, The Study Aims To Understand How The Pulsed Current Welding Technique Affects The Structural And Mechanical Characteristics Of The Welded Stainless Steel Joints. Parameters Such As Pulse Duration, Frequency, And Current Amplitude Will Be Systematically Varied And Studied To Assess Their Impact On The Final Weld Properties. The Findings From This Research Will Contribute Valuable Insights Into Optimizing Pulsed Current Welding Parameters For Achieving Desired Micro And Macro Properties In Stainless Steel Welds, Offering Advancements In Welding Technology And Metallurgical Practices.

Keywords: Pulsed Current Welding, Stainless Steel Welds, Microstructure, Mechanical Properties, Welding Technology, Macroscopic Evaluation.


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Indra Ganesan College of Engineering

IC Valley, Madurai Main Road

Marikandam, Trichy-620 011

242. "Root Cause Analysis And Corrective-Preventive Action For Defects In Submerged Arc Welding"

1Mr. Saravanakumar C, Assistant Professor,

2Kalimuthu M, 3Kavin V, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Study Addresses Defects In Submerged Arc Welding (Saw) By Conducting A Thorough Root Cause Analysis And Implementing Corrective-Preventive Actions. Through A Combination Of Non-Destructive Testing, Metallurgical Analysis, And Statistical Methods, The Research Aims To Identify And Understand The Root Causes Of Defects Such As Porosity, Cracking, And Lack Of Fusion In Saw. Subsequently, A Structured Approach For Corrective And Preventive Measures Will Be Developed And Implemented To Mitigate The Identified Issues. The Findings Of This Study Contribute To Improving The Overall Reliability And Quality Of Submerged Arc Welding Processes, Providing Valuable Insights For Welders, Engineers, And Industries Relying On This Welding Technique.

Keywords: Submerged Arc Welding, Defect Analysis, Root Cause Analysis, Corrective Actions, Preventive Measures, Welding Quality Improvement.

243. "Design And Development Of A Multipurpose Pneumatic Autofeed Drilling Machine For Enhanced Machining Versatility"

Mr. Saravanakumar C, Assistant Professor,

Prabu P, Prabu R, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design And Development Of A Versatile Multipurpose Pneumatic Autofeed Drilling Machine, Aimed At Providing Enhanced Capabilities For Various Machining Applications. The Study Encompasses The Integration Of Pneumatic Systems To Automate The Drilling Process, Enabling Consistent And Precise Drilling Operations. Additionally, The Machine Is Designed To Accommodate Various Tooling Configurations, Making It Adaptable For Different Drilling Tasks. The Research Investigates The Performance Of The Pneumatic Autofeed System Under Different Operational Conditions, Evaluating Factors Such As Drilling Speed, Feed Rate, And Tool Life. The Findings Contribute To Advancements In Machining Technology, Providing A Flexible And Efficient Solution For Diverse Drilling Applications.

Keywords: Multipurpose Drilling Machine, Pneumatic Autofeed, Machining Versatility, Tooling Configurations, Drilling Automation, Machining Efficiency.



PRINCIPAL

Indra Ganesan College of Engineering
15 Vellay, Madurai Main Road
Arasikondam, Trichy-620 011

244. Title: "Integration Of Refrigeration And Air Conditioning Systems: A Comprehensive Study On Energy Efficiency And Environmental Impact"

Mr. Saravanakumar C, Assistant Professor,

Kishore P, Mukesh G, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Explores The Synergies And Benefits Of Integrating Refrigeration And Air Conditioning Systems To Enhance Overall Energy Efficiency And Reduce Environmental Impact. The Study Involves A Detailed Analysis Of The Combined System's Design, Performance, And Operational Characteristics. Key Considerations Include The Utilization Of Waste Heat From Refrigeration Processes To Improve The Efficiency Of Air Conditioning, Thereby Contributing To Energy Conservation. Additionally, The Study Investigates The Environmental Implications And Potential For Utilizing Environmentally Friendly Refrigerants. The Findings Aim To Provide Insights Into The Feasibility, Advantages, And Challenges Associated With The Integration Of Refrigeration And Air Conditioning Systems, Offering A Sustainable Approach For Temperature Control Applications.

Keywords: Refrigeration, Air Conditioning, Energy Efficiency, Environmental Impact, System Integration, Sustainable Cooling, Waste Heat Utilization.

245. "Innovative Redesign Of Handwheel For Control Valves: Improving Ergonomics, Performance, And User Experience"

Mr. Jerry Andrews Fabian .S, Assistant Professor,

Sathishkumar R, Sureshkumar G, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Explores An Alternative Design Approach For The Handwheel In Control Valves, Focusing On Enhancing Ergonomics, Functionality, And Overall User Experience. Through A Combination Of Ergonomic Studies, User Feedback Analysis, And Engineering Considerations, The Study Aims To Propose A Redesigned Handwheel That Offers Improved Operability, Ease Of Use, And Responsiveness. Factors Such As Material Selection, Grip Design, And Size Optimization Will Be Systematically Analyzed To Ensure The Proposed Alternative Design Meets Or Exceeds The Performance Of Traditional Handwheels. The Findings Contribute Valuable Insights Into Redefining The User Interface Of Control Valves, Addressing Issues Related To Comfort, Efficiency, And Usability In Various Industrial Applications.

Keywords: Control Valve, Handwheel Design, Ergonomics, User Experience, Performance Improvement, Alternative Design, Industrial Applications.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road,
Mazhikandam, Trichy-620 012

246. "Performance Analysis Of Spiral-Type Heat Exchanger: A Comprehensive Study On Heat Transfer Efficiency And Fluid Dynamics"

Mr. Jerry Andrews Fabian .S, Assistant Professor,

Mahendran S, Selladurai M, III Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Conducting A Detailed Performance Analysis Of A Spiral-Type Heat Exchanger, Investigating Its Heat Transfer Efficiency And Fluid Dynamics. Through A Combination Of Theoretical Modeling, Computational Simulations, And Experimental Validations, The Study Aims To Assess The Thermal Performance Of The Spiral Heat Exchanger Under Varying Operating Conditions. Parameters Such As Flow Rates, Fluid Properties, And Geometric Configurations Will Be Systematically Analyzed To Understand Their Impact On Heat Transfer Effectiveness. The Findings Of This Research Provide Valuable Insights Into Optimizing The Design And Operational Parameters Of Spiral-Type Heat Exchangers, Contributing To Advancements In Heat Exchanger Technology And Energy Efficiency.

Keywords: Spiral-Type Heat Exchanger, Performance Analysis, Heat Transfer Efficiency, Fluid Dynamics, Thermal Performance, Computational Simulations, Experimental Validation.

247. "Exhaust Gas Heat Recovery Power Generation System: Design, Efficiency Analysis, And Sustainability Impact"

Mr. Jerry Andrews Fabian .S, Assistant Professor,

Satheesh M.R, Vinoth M, III Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Study Delves Into The Design And Analysis Of An Exhaust Gas Heat Recovery Power Generation System, Aimed At Harnessing Waste Heat From Industrial Processes To Generate Additional Electrical Power. The Research Involves A Comprehensive Investigation Into The Integration Of Heat Recovery Technologies, Such As Organic Rankine Cycle (OrC) Or Kalina Cycle, With Exhaust Gas Systems. Through A Combination Of Theoretical Modeling, Thermodynamic Analysis, And Experimental Validation, The Study Evaluates The Efficiency And Performance Of The Proposed Impact Of Utilizing Exhaust Gas Heat Recovery For Power Generation, Considering Both Economic And Environmental Aspects. The Findings Contribute Valuable Insights Into The Potential Of This Technology For Improving Energy Efficiency And Reducing Greenhouse Gas Emissions In Industrial Applications.

Keywords: Exhaust Gas Heat Recovery, Power Generation, OrC, Kalina Cycle, Efficiency Analysis, Sustainability Impact, Waste Heat Utilization.


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Marakandan, Trichy-620 011

248. "Design Enhancement For Heat Transfer Efficiency In The Firebox Of Oil-Fired Steam Locomotive Boiler"

Mr. Jerry Andrews Fabian .S, Assistant Professor,

Alagar .M, Nethaji .M, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Focuses On Improving Heat Transfer Efficiency Within The Firebox Of Oil-Fired Steam Locomotive Boilers Through Innovative Design Modifications. The Study Involves A Detailed Analysis Of The Combustion Process, Heat Distribution, And Fluid Dynamics Within The Firebox. Through Computational Modeling, Thermal Simulations, And Experimental Validations, The Research Aims To Optimize The Shape, Size, And Arrangement Of Heat Exchange Surfaces To Enhance Overall Heat Transfer. Special Attention Is Given To Mitigating Heat Loss And Improving Combustion Efficiency. The Findings Of This Research Provide Insights Into Design Improvements For Oil-Fired Steam Locomotive Boilers, Aiming To Increase Thermal Efficiency And Reduce Environmental Impact.

Keywords: Steam Locomotive Boiler, Heat Transfer Efficiency, Firebox Design, Combustion Optimization, Thermal Simulations, Innovative Heat Exchange Surfaces, Oil-Fired Boilers.

249. "Process Improvement And Cycle Time Reduction In Furnace Connecting Sphere Of Once-Through Steam Generator (OtsG) Boilers"

Mr. Jerry Andrews Fabian .S, Assistant Professor,

Palpandi .P, Khan Mohammed.S, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Addresses The Challenges Of Process Inefficiencies And Prolonged Cycle Times In The Manufacturing Of Furnace Connecting Spheres For Once-Through Steam Generator (OtsG) Boilers. The Study Focuses On Optimizing The Fabrication Process Through Systematic Analysis, Workflow Enhancements, And Technological Innovations. Utilizing Lean Manufacturing Principles, Six Sigma Methodologies, And Advanced Data Analytics, And Real-World Testing, The Study Seeks To Identify And Implement Improvements That Contribute To Increased Productivity And Cost-Effectiveness In The Manufacturing Of Furnace Connecting Spheres For OtsG Boilers. The Findings Offer Practical Insights For Manufacturers Aiming To Improve Efficiency And Competitiveness In The Boiler Production Industry.

Keywords: OtsG Boilers, Furnace Connecting Sphere, Process Improvement, Cycle Time Reduction, Lean Manufacturing, Six Sigma, Operational Efficiency.


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250. "Design And Analysis Of Natural Gas Storage Tank For Automobile: Optimization Of Safety, Performance, And Structural Integrity"

Mr. S. Maheshwaran, Assistant Professor,

Ananthakrishnan .G, Purushothaman .V, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design And Comprehensive Analysis Of A Natural Gas Storage Tank Tailored For Automotive Applications. The Study Employs Advanced Engineering Principles, Material Science, And Structural Analysis To Optimize The Tank's Safety, Performance, And Structural Integrity. Factors Such As Material Selection, Tank Geometry, And Pressure Vessel Design Will Be Systematically Investigated To Ensure Compliance With Stringent Safety Standards And Regulations. Computational Simulations, Including Finite Element Analysis (Fem), Will Be Utilized To Evaluate The Tank's Performance Under Various Operational Conditions. The Findings Of This Research Aim To Contribute To The Development Of Efficient And Safe Natural Gas Storage Solutions For Automobiles, Promoting The Adoption Of Cleaner And More Sustainable Energy Sources In The Automotive Industry.

Keywords: Natural Gas Storage Tank, Automobile, Design Optimization, Structural Analysis, Safety Standards, Finite Element Analysis, Sustainable Energy.

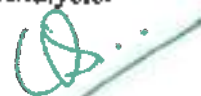
251. "Investigating The Influence Of Vent Hole Parameters On Mechanical Properties Of Metal Castings In Sand Casting Processes"

Mr. S. Maheshwaran, Assistant Professor,

Raja Durai .G, Vinothkumar .V, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Explores The Effect Of Vent Hole Parameters On The Mechanical Properties Of Metals Produced Through Sand Casting Processes. The Study Involves A Study On The Overall Casting Quality. Through A Combination Of Experimental Analyses, Metallurgical Examinations, And Mechanical Testing, The Research Aims To Understand How Vent Hole Parameters Influence Factors Such As Porosity, Shrinkage Defects, And Mechanical Strength In Cast Metal Components. The Findings Will Contribute Valuable Insights Into Optimizing Vent Hole Design To Enhance The Mechanical Properties And Overall Quality Of Metal Castings In Sand Casting Processes.

Keywords: Sand Casting, Vent Hole Parameters, Mechanical Properties, Casting Quality, Metallurgical Analysis, Shrinkage Defects, Experimental Analysis.



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Mozikandam, Trichy-620 612

252. "Inspection And Optimization Of Nozzle Profile Milling In Cnc Drilling Machines For Precision Machining"

Mr. S. Maheshwaran, Assistant Professor,

Anbarasan .M, Barath.V, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Inspection And Optimization Of Nozzle Profile Milling In Cnc Drilling Machines To Ensure Precision And Quality In The Manufacturing Process. The Study Involves A Comprehensive Analysis Of Machining Parameters, Tooling Strategies, And Cutting Conditions During The Milling Of Nozzle Profiles. Through A Combination Of Advanced Inspection Techniques, Including Coordinate Measuring Machines (Cmm) And Surface Profilometry, The Research Aims To Evaluate Dimensional Accuracy, Surface Finish, And Geometric Integrity Of The Machined Nozzle Profiles. Additionally, The Study Explores The Impact Of Tool Wear And Optimization Strategies To Enhance Machining Efficiency. The Findings Contribute To Improving The Reliability And Performance Of Cnc Drilling Machines In The Production Of Precise Nozzle Profiles For Various Applications.

Keywords: Cnc Drilling Machine, Nozzle Profile Milling, Precision Machining, Inspection Techniques, Tool Wear Optimization, Machining Efficiency, Surface Profilometry.

253. "Design And Fabrication Of Sequential Pneumatic Coal Chock Remover For Enhanced Safety And Efficiency In Mining Operations"

Mr. S. Maheshwaran, Assistant Professor,

Aravindan K.B, Bhuvaneshwaran .S, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Project Focuses On The Design And Fabrication Of A Sequential Pneumatic Coal Chock Remover, A Specialized Tool Aimed At Improving Safety And Efficiency In Mining Operations. The Study Encompasses The Detailed Design Considerations, Controlled And Synchronized Movement, Contributing To Enhanced Safety During The Chock Removal Process. Through A Combination Of Theoretical Modeling, Simulation Studies, And Practical Experimentation, The Research Aims To Validate The System's Performance, Durability,

And Its Ability To Streamline Coal Chock Removal Operations In Underground Mines. The Findings Contribute To Advancements In Mining Equipment Technology, Promoting Safer And More Efficient Coal Extraction Processes.

Keywords: Sequential Pneumatic System, Coal Chock Remover, Mining Operations, Safety, Efficiency, Design And Fabrication, Underground Mining.



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Manikandan, Trichy-620 012

254. "Process Improvement In Precision Fuel Leak Test Instrument: Enhancing Accuracy, Efficiency, And Reliability"

Mr. S. Maheshwaran, Assistant Professor,

Anbuselvam. S, Vengatraman . D, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Optimizing The Process Associated With Precision Fuel Leak Testing Instruments, Aiming To Enhance Their Accuracy, Efficiency, And Overall Reliability. The Study Involves A Comprehensive Analysis Of The Current Testing Procedures, Equipment Design, And Data Acquisition Methods. Through The Implementation Of Advanced Measurement Technologies, Statistical Process Control, And Quality Assurance Techniques, The Research Aims To Identify Areas For Improvement And Propose Enhancements To The Testing Process. Additionally, The Study Explores Consistent And Reliable Results. The Findings Contribute To The Advancement Of Precision Fuel Leak Testing Instruments, Offering Improved Performance And Quality In Various Industrial Applications.

Keywords: Precision Fuel Leak Test, Process Improvement, Accuracy, Efficiency, Reliability, Quality Assurance, Automation, Measurement Technologies.

255. "Design And Development Of A Motorized Threading Machine: Advancing Precision And Efficiency In Thread Manufacturing"

Mr. C. Jegatheesan, Assistant Professor,

Manikandan M, Anwar Maraikayar .A, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design And Development Of A Motorized Threading Machine To Enhance Precision And Efficiency In Thread Manufacturing Processes. The Study Involves Detailed Engineering Analysis, Material Selection, And Prototyping To Create A Robust And Versatile Threading Machine. The Incorporation Of A Motorized System Aims To Automate And Streamline Threading Operations, Improving Accuracy And Reducing Manual Effort. Through A Combination Of Experimental Testing And Performance Evaluations, The Research Seeks To Optimize Cutting Parameters, The Advancement Of Thread Manufacturing Technology, Providing Industries With A Reliable And Efficient Motorized Threading Solution For Various Applications.

Keywords: Motorized Threading Machine, Thread Manufacturing, Precision Machining, Efficiency, Automation, Cutting Parameters Optimization, Machine Development.



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16 Valley, Madurai Main Road
Manikandan, Trichy-620 012

256. "Development And Performance Analysis Of A Water-Fuel Engine For Sustainable Power Generation"

Mr. C. Jegatheesan, Assistant Professor,

Jeyapal .R, Julius Jesus. K, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Development And Performance Analysis Of A Water-Fuel Engine. A Novel Approach Aimed At Harnessing The Potential Of Water As A Sustainable Energy Source. The Study Involves The Design And Optimization Of An Engine System Capable Of Utilizing Water As A Primary Or Supplementary Fuel. Through A Combination Of Experimental Testing, Computational Modeling, And Efficiency Analyses, The Research Aims To Evaluate The Engine's Performance, Emissions, And Overall Viability For Power Generation. The Findings Contribute To Advancing As A Fuel Source In Internal Combustion Engines, Potentially Offering An Eco-Friendly Alternative For Various Applications.

Keywords: Water-Fuel Engine, Sustainable Power Generation, Performance Analysis, Renewable Energy, Engine Optimization, Environmental Impact.

257. "Design And Development Of A Camshaft And Cam Lobe Measuring Instrument For Locomotive Diesel Engines: Advancing Precision In Engine Performance"

Mr. C. Jegatheesan, Assistant Professor,

Ranjith .R, Chitharthan .P, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design And Development Of A Specialized Measuring Instrument Tailored For Locomotive Diesel Engines, Specifically Targeting Camshafts And Cam Lobes. The Study Involves A Comprehensive Engineering Analysis, Precision Instrumentation Design, And Prototyping To Create A Reliable And Accurate Measuring System. The Instrument Aims To Assess The Dimensional Accuracy, Surface Finish, And Geometric Parameters Of Camshafts And Cam Lobes Critical To Engine Performance. Through A Combination Of Experimental Testing And Validation, The Research Seeks Locomotive Diesel Engines. The Findings Contribute To The Advancement Of Engine Manufacturing Technology By Providing A Dedicated Instrument For Maintaining And Assessing Critical Components In Locomotive Diesel Engines.

Keywords: Camshaft Measuring Instrument, Cam Lobe Measurement, Locomotive Diesel Engine, Precision Instrumentation, Engine Performance, Dimensional Accuracy, Surface Finish Analysis.


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258. "Demonstration Of Cooling And Heating Effects Through Acoustic Phenomena: Harnessing Sound Waves For Thermal Management"

Mr. C. Jegatheesan, Assistant Professor.

Dinesh Antony A, Francis Saveriyar V, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Aims To Explore And Demonstrate The Cooling And Heating Effects Achieved By Utilizing Sound Waves, Showcasing The Potential For Novel Applications In Thermal Management. The Study Involves The Experimental Setup Of A System That Harnesses Acoustic Phenomena To Induce Temperature Changes. Through A Combination Of Controlled Sound Wave Generation, Experimental Measurements, And Thermodynamic Analysis, The Research Aims To Illustrate The Cooling And Heating Capabilities Of Sound Waves. The Findings Not Only Contribute To The Fundamental Understanding Of Acousto- Thermal Effects But Also Hold Promise For The Development Of Innovative Technologies In Areas Such As Refrigeration And Localized Heating, Potentially Offering Sustainable And Energy-Efficient Alternatives.

Keywords: Acoustic Cooling, Acoustic Heating, Sound Waves, Thermal Management, Innovative Technologies, Experimental Setup, Thermodynamic Analysis.

259. Design And Implementation Of A Solar-Based Pick And Place Robot: Sustainable Automation For Industrial Applications"

Mr. C. Jegatheesan, Assistant Professor.

Muthuramalingam, P, Christopher, D, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design And Implementation Of A Pick And Place Robot Powered By Solar Energy, Contributing To Sustainable And Eco-Friendly Automation In Industrial Settings. The Study Involves The Integration Of Solar Panels, Energy Storage Systems, And Efficient Robotic Components To Create A Self-Sufficient Robotic System Capable Of Executing Pick And Place Tasks. Through A Combination Of System Modeling, Simulation Studies, And Real-World Experimentation, The Research Aims To Assess The Robot's Performance, Energy Efficiency, And Overall Feasibility In Industrial Applications. The Findings Contribute To The Advancement Of Sustainable Automation, Offering A Renewable Energy-Powered Solution For Pick And Place Operations In Various Industries.

Keywords: Solar-Based Robot, Pick And Place Automation, Sustainable Robotics, Renewable Energy, Energy-Efficient Robotics, Industrial Applications, System Modeling, Simulation Studies.


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TG Valley, Madurai Main S
Manikandan, Trichy-626 612

260. "Design And Analysis Of Chassis For Heavy Vehicles: Structural Integrity, Performance Optimization, And Safety Considerations"

Mr. Thirunavukarasu .R, Assistant Professor, Madhankumar .M, Manikandan .K, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Comprehensive Design And Analysis Of Chassis Structures In Heavy Vehicles, With An Emphasis On Ensuring Structural Integrity, Optimizing Performance, And Addressing Safety Considerations. The Study Involves Detailed Engineering Analysis, Material Selection, And Computer-Aided Simulations To Develop An Efficient And Robust Chassis System. Through A Combination Of Finite Element Analysis (Fea), Fatigue Life Assessments, And Dynamic Simulations, The Research Aims To Evaluate The Chassis's Response To Various Loading Conditions And Environmental Factors. The Findings Contribute To Advancements In Heavy Vehicle Design, Providing Insights Into The Optimization Of Chassis Structures To Enhance Durability, Performance, And Overall Safety In Diverse Operating Conditions.

Keywords: Heavy Vehicle Chassis, Structural Integrity, Performance Optimization, Safety Considerations, Finite Element Analysis, Fatigue Life Assessment, Dynamic Simulations, Vehicle Design.

261. "Performance Improvement Of Air Conditioning Systems Through Retrofitted Condensers: Enhancing Efficiency And Environmental Impact"

Mr. Thirunavukarasu .R, Assistant Professor,

Palpandiyan .P, Gopinath .P, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Enhancing The Performance Of Air Conditioning Systems By Employing Retrofitted Condensers. The Study Involves Retrofitting Existing Air Conditioning Units With Improved Condenser Technologies To Boost Overall System Efficiency And Reduce Environmental Impact. Through A Combination Of Experimental Measurements, Energy Efficiency Assessments, And Environmental Impact Analyses, The Research Aims To Evaluate The Effectiveness Of Retrofitted Condensers In Improving Cooling Performance While Considering Sustainability Aspects. The Findings Contribute Valuable Insights Into Retrofitting Strategies For Existing Air Conditioning Systems, Offering A Potential Pathway For Achieving Higher Efficiency And Reduced Energy Consumption In Cooling Applications.

Keywords: Air Conditioning System, Retrofitted Condenser, Performance Improvement, Energy Efficiency, Environmental Impact, Cooling Technology.



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Manikandan, Trichy-620 012

262. "Optimization Of Cutting Parameters In Cnc Vertical Milling Machine Using Simulated Annealing Algorithm: Enhancing Precision And Efficiency"

Mr. Thirunavukarasu. R, Assistant Professor,

Vinothkumar .T, Vignesh .R, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Focuses On The Optimization Of Cutting Parameters In Cnc Vertical Milling Machines Through The Application Of A Simulated Annealing Algorithm. The Study Involves A Systematic Analysis Of Cutting Speed, Feed Rate, And Depth Of Cut To Improve Machining Precision And Efficiency. By Employing Simulated Annealing, A Metaheuristic Optimization Technique, The Research Aims To Find The Optimal Combination Of Cutting Parameters That Minimize Tool Wear, Maximize Material Removal Rate, And Enhance Surface Finish. Through Computational Simulations And Experimental Validations, The Study Evaluates The Effectiveness Of The Algorithm In Achieving Optimal Cutting Conditions. The Findings Contribute To Advancements In Cnc Milling Processes, Providing A Systematic Approach To Enhance Machining Performance And Efficiency.

Keywords: Cnc Vertical Milling Machine, Cutting Parameters Optimization, Simulated Annealing Algorithm, Machining Precision, Efficiency Improvement, Surface Finish, Tool Wear.

263. "Development And Powder Characterization Of Sic, Tic, And Graphene Reinforced AlMetal Matrix Composites Via Mechanical Alloying"

Mr. Thirunavukarasu. R, Assistant Professor,

Santhosh .M, Justin Dhraviam . M, Iii Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Focuses On The Innovative Development Of Hybrid Reinforced Aluminum (Al) Metal Matrix Composites Incorporating Silicon Carbide (Sic), Titanium Carbide (Tic), And Graphene (Gr). The Study Employs The Advanced Technique Of Mechanical Alloying To Achieve Homogenous Distribution And Enhanced Synergy Between The Reinforcing Phases And The Aluminum Matrix. Through A Comprehensive Powder Characterization Process Involving Techniques Such As X-Ray Diffraction (Xrd), Scanning Electron Microscopy (Sem), And Particle Size Analysis, The Research Aims To Understand The Microstructural Evolution And Powder Morphology. The Investigation Seeks To Optimize Processing Parameters For Superior Mechanical And Thermal Properties, Offering Insights Into The Potential Of These Hybrid Composites For Advanced Engineering Applications.

Keywords: Hybrid Composites, Aluminum Matrix Composites, Mechanical Alloying, Sic, Tic, Graphene, Powder Characterization, Mechanical Properties, Thermal Properties.

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Mankadan, Trichy-620 012

264. "Innovative Button-Operated Gear Shifting Mechanism For Two-Wheelers Using Electromagnets"

Mr. Thirunavukarasu. R, Assistant Professor,

Karthick .P, Manoj Krishna Kumar . B, III Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Introduces A Novel Approach To Gear Shifting In Two-Wheelers Through A Button-Operated Mechanism Utilizing Electromagnets. The Study Focuses On The Design, Implementation, And Performance Analysis Of This Innovative Gear Shifting System. By Employing Electromagnets Strategically Placed Within The Transmission System, The Button-Operated Mechanism Aims To Provide Riders With A Convenient And Seamless Way To Shift Gears. Through Comprehensive Experimental Testing, Analysis Of Electromagnetic Actuation, And Evaluation Of User Experience, The Research Aims To Optimize The Design Parameters For Efficiency And Reliability. The Findings Contribute Valuable Insights Into The Development Of User-Friendly And Technologically Advanced Gear Shifting Solutions For Two-Wheelers.

Keywords: Button-Operated Gear Shifting, Electromagnetic Mechanism, Two-Wheelers, Transmission System, User Experience, Gear Shifting Efficiency, Innovative Design.

265. "Analysis Of Thermal Distribution In Brake Drum: A Comprehensive Study On Heat Dissipation And Performance Characteristics"

Mr. G Dineshwaran, Assistant Professor,

Paragatheeswaran .P, Karthick .P, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Conducts A Thorough Analysis Of The Thermal Distribution In Brake Drums, Aiming To Understand Heat Dissipation Mechanisms And Their Impact On Braking Performance. The Study Involves Computational Simulations, Thermal Imaging, And Experimental Measurements To Map And Analyze Temperature Distribution Across The Brake Drum During Various Braking Conditions. Factors Such As Material Properties, Geometrical Considerations, And Airflow Dynamics Are Investigated To Assess Their Influence On Thermal Performance. The Findings Provide Valuable Insights Into The Design And Optimization Of Brake Drums, With A Focus On Enhancing Heat Dissipation And Overall Braking System Efficiency.

Keywords: Thermal Distribution Analysis, Brake Drum, Heat Dissipation, Braking Performance, Computational Simulations, Thermal Imaging, Brake System Optimization.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road,
Manikandam, Trichy-620 017

266. "Optimization Of Riser Design In Sand Casting Process For Improved Casting Quality"

Mr. G Dineshwaran, Assistant Professor,

Karthikeyan .T, Rajappa .K, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Optimizing The Design Of Risers In The Sand Casting Process To Enhance Casting Quality. Riser Design Plays A Crucial Role In Preventing Shrinkage Defects And Ensuring Sound Casting Structures. The Study Involves A Comprehensive Investigation Into The Influence Of Riser Size, Shape, And Placement On The Solidification Process. Through A Combination Of Computer-Aided Simulations, Experimental Trials, And Metallurgical Analysis, The Research Aims To Identify The Optimum Riser Design Parameters That Promote Uniform Solidification And Minimize Porosity In Castings. The Findings Contribute To The Development Of Guidelines For Achieving Enhanced Casting Quality In Sand Casting Processes Through Effective Riser Design.

Keywords: Riser Design, Sand Casting, Solidification, Shrinkage Defects, Casting Quality, Metallurgical Analysis, Optimization.

267. "Analysis Of Brittle Fracture In Nodular Cast Iron Diesel Engine Crankshaft: Investigating Material Properties And Failure Mechanisms"

Mr. G Dineshwaran, Assistant Professor,

Essaldraja .S, Karthikeyan .P, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Analysis Of Brittle Fracture In Diesel Engine Crankshafts Made Of Nodular Cast Iron. Aiming To Understand The Underlying Material Properties And Failure Mechanisms. Through A Combination Of Metallurgical Analysis, Mechanical Testing, And Fracture Mechanics, The Study Explores Factors Such As Microstructural Characteristics, Notch Sensitivity, And Loading Conditions That Contribute To Brittle Fracture. Experimental Data, Including Impact Tests And Fractography, Are Used To Identify Critical Points Of Failure And Assess The Fracture Behavior. The Findings Provide Insights Into The Design And Manufacturing Considerations Necessary To Prevent Brittle Fractures, Ultimately Enhancing The Reliability And Safety Of Nodular Cast Iron Crankshafts In Diesel Engines.

Keywords: Brittle Fracture, Nodular Cast Iron, Diesel Engine Crankshaft, Failure Analysis, Material Properties, Metallurgical Analysis, Fracture Mechanics.

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IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

268. "Design Optimization Of 'A' Pillar For Blind Spot Rectification In Chevrolet Cars"

Mr. G Dineshwaran, Assistant Professor,

Kumara Gurubaran, B. Sankara Narayanan .S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Design Optimization Of The 'A' Pillar In Chevrolet Cars To Rectify Blind Spot Issues And Enhance Overall Driver Visibility And Safety. ~~Through A Combination Of Advanced Design Techniques, Computational Simulations, And Real- World Testing,~~ The Study Aims To Refine The Shape, Size, And Material Properties Of The 'A' Pillar. The Objective Is To Reduce Blind Spots Without Compromising Structural Integrity. The Findings Of This Research Provide Insights Into Mitigating Blind Spot Challenges In Chevrolet Cars, Contributing To Advancements In Automotive Design And Safety.

Keywords: 'A' Pillar Design, Blind Spot Rectification, Chevrolet Cars, Driver Visibility, Safety Enhancement, Computational Simulations, Automotive Design.

269. "Experimental Investigation Of Pvd And Cvd Coated Inserts In Cnc Milling: Performance Evaluation And Machining Efficiency"

Mr. G Dineshwaran, Assistant Professor,

Vignesh .S, Karuppanasamy .S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Conducts An Experimental Investigation Into The Performance Of Pvd (Physical Vapor Deposition) And Cvd (Chemical Vapor Deposition) Coated Inserts In Cnc Milling Operations. The Study Involves A Comprehensive Analysis Of Machining Efficiency, Tool Wear Characteristics, And Surface Finish Quality. Through Systematic Experimentation And Data Collection, The Research Aims To Evaluate The Effectiveness Of Pvd And Cvd Coatings In Enhancing Tool Life, Reducing Friction, And Improving Overall Cutting Performance. The Findings Provide Valuable Insights Into The Selection And Optimization Of Coated Inserts For Cnc Milling Applications, Contributing To Advancements In Machining Processes And Tooling Technologies.

Keywords: Pvd Coating, Cvd Coating, Cnc Milling, Tool Wear Analysis, Machining Efficiency, Surface Finish Quality, Cutting Performance.



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Indra Ganesan College of Engineering

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Manikandam, Trichy-621 007

270. "Enhancement Of Air-Preheater Performance In Thermal Power Stations: Optimization Strategies And Efficiency Improvements"

Mr. Nagarajan. P, Assistant Professor,

Prakash A.T, Raghu .R, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Improving The Performance Of Air-Preheaters In Thermal Power Stations, Crucial Components For Enhancing Overall Plant Efficiency. Through A Combination Of Computational Modeling, Experimental Analysis, And Optimization Techniques, The Study Investigates Strategies To Enhance Heat Transfer Efficiency, Reduce Fouling, And Increase Energy Savings In Air-Preheater Systems. Various Design Modifications, Material Considerations, And Operational Parameters Are Explored To Maximize The Heat Exchange Process. The Findings Aim To Provide Practical Insights And Guidelines For Thermal Power Station Operators And Engineers To Optimize Air- Preheater Performance, Thereby Contributing To Increased Energy Efficiency And Reduced Environmental Impact In Power Generation.

Keywords: Air-Preheater, Thermal Power Station, Heat Transfer Efficiency, Fouling Reduction, Optimization Strategies, Energy Savings, Computational Modeling.

271. "Design And Analysis Of Composite Material Leaf Springs: A Comprehensive Study On Lightweighting And Performance Optimization"

Mr. Nagarajan. P, Assistant Professor,

Muthukumar .S, Prathap.M, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Investigates The Design And Analysis Of Leaf Springs Manufactured Using Composite Materials, With A Focus On Achieving Lightweighting And Enhanced Mechanical Performance. The Study Employs A Combination Of Advanced Composite Materials, Structural Analysis, And Finite Element Simulations To Optimize The Leaf Spring's Geometry, Layering, And Overall Composition. Key Factors Such As Strength, Stiffness, And Fatigue Life Are Evaluated To Ensure That The Composite Leaf Springs Meet Or Exceed The Performance Characteristics Of Traditional Metal Counterparts. The Findings Provide Valuable Insights Into The Potential Of Composite Materials For Leaf Spring Applications, Offering A Balance Between Weight Reduction And Structural Integrity For Various Automotive And Industrial Uses.

Keywords: Composite Material, Leaf Spring, Lightweighting, Structural Analysis, Finite Element Simulations, Mechanical Performance, Automotive Applications.

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Madurai, Tamil Nadu

272. "Numerical Analysis Of Spray Characteristics In Biodiesel Blends: Investigating Atomization And Combustion Processes"

Mr. Nagarajan. P, Assistant Professor.

Naveen.E, Thirumaran .S, Iv Year Student, Department Of Mechanical Engineering,
IndraGanesan College Of Engineering.

Abstract: This Research Focuses On The Numerical Analysis Of Spray Characteristics In Biodiesel Blends, Specifically Exploring The Atomization And Combustion Processes. The Study Employs Computational Fluid Dynamics (Cfd) Simulations To Model The Behavior Of Biodiesel Fuel Sprays Under Various Operating Conditions. Key Parameters Such As Spray Cone Angle, Droplet Size Distribution, And Vaporization Characteristics Are Thoroughly Investigated To Understand Their Impact On Combustion Efficiency And Emissions. The Findings Contribute To A Deeper Understanding Of Biodiesel Spray Behavior, Providing Valuable Insights For Optimizing Combustion Processes And Enhancing The Performance Of Biodiesel Blends In Internal Combustion Engines.

Keywords: Numerical Analysis, Spray Characteristics, Biodiesel Blends, Atomization, Combustion Efficiency, Computational Fluid Dynamics (Cfd), Biofuel Combustion.

273. "Optimization Of Cutting Parameters In Cnc Turning Machines Using Firefly Algorithm: Enhancing Machining Efficiency"

Mr. Nagarajan. P, Assistant Professor.

Sakthivel .S, Saravanan .G, Iv Year Student, Department Of Mechanical Engineering,
Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Optimization Of Cutting Parameters In Cnc Turning Machines Utilizing The Firefly Algorithm. The Study Aims To Improve Machining Efficiency By Systematically Adjusting Parameters Such As Cutting Speed, Feed Rate, And Depth Of Cut. The Firefly Algorithm, Known For Its Ability To Efficiently Search For Optimal Solutions In Complex Spaces, Is Employed To Find The Most Favorable Combination Of Cutting Parameters. Through A Combination Of Computational Simulations And Experimental Validation, The Research Evaluates The Impact Of Optimized Parameters On Machining Performance, Including Surface Finish, Tool Wear, And Overall Process Stability. The Findings Offer Valuable Insights Into The Application Of Metaheuristic Algorithms For Cnc Turning Optimization, Contributing To Advancements In Precision Machining And Manufacturing Processes.

Keywords: Cnc Turning, Cutting Parameters Optimization, Firefly Algorithm, Machining Efficiency, Surface Finish, Tool Wear, Metaheuristic Algorithms.



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Indra Ganesan College of Engineering

16 Valley, Madurai Main Road

Misarcadam, Trichy-620 012

274. "Mechanical Properties Assessment Of Al-Sic-Tic Composite Material Manufactured Through Sand Casting Technique"

Mr. Nagarajan. P, Assistant Professor,

Sugantan .R, Wilestan James .A, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Investigates The Mechanical Properties Of An Aluminum (Al) Matrix Composite Reinforced With Silicon Carbide (Sic) And Titanium Carbide (Tic) Particles, Produced Using The Sand Casting Technique. The Study Involves A Comprehensive Analysis Of The Composite Material's Tensile Strength, Hardness, And Impact Resistance. Through A Combination Of Experimental Testing, Microstructural Examinations, And Fractography, The Research Aims To Assess The Influence Of Sic And Tic Reinforcements On The Mechanical Behavior Of The Composite. The Findings Provide Valuable Insights Into The Potential Applications Of Al-Sic-Tic Composites Produced Through Sand Casting, Contributing To The Understanding Of Their Mechanical Performance In Diverse Engineering Applications.

Keywords: Al-Sic-Tic Composite Material, Sand Casting, Mechanical Properties, Tensile Strength, Hardness, Impact Resistance, Microstructural Analysis, Fractography.

275. "Performance Evaluation Of Compression Ignition Engines Using Pyrolysis Oil Blends With Diesel: An Experimental Study"

Mr. E. Leo Prakash, Assistant Professor,

Selvakumar. S, Vadivel K, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering,

Abstract: This Research Aims To Evaluate The Performance Of Compression Ignition (CI) Engines By Utilizing Blends Of Pyrolysis Oil With Diesel Fuel. The Study Involves A Comprehensive Experimental Analysis, Assessing Key Engine Performance Parameters Such As Brake Thermal Efficiency, Exhaust Emissions, And Combustion Characteristics. Different Blends Of Pyrolysis Oil And Diesel Will Be Investigated To Understand Their Impact On Engine Efficiency And Emissions. The Findings Will Provide Ci Engines, Contributing To The Broader Understanding Of Biofuel Applications In Internal Combustion Engines. **Keywords:** Pyrolysis Oil, Diesel Blends, Compression Ignition Engine, Performance Evaluation, Brake Thermal Efficiency, Exhaust Emissions, Combustion Characteristics, Biofuels.

Keywords: Leaf Spring, Lightweighting, Structural Analysis, Finite Element Simulations



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Indra Ganesan College of Engineering
45 Vajray, Madurai Main Road
Mudikondam, Trichy-620 012

276. "Experimental Investigation Of Micromilling Of Aluminum Alloy Using Cnc Milling Machine: Optimization Of Process Parameters And Surface Quality"

Mr. E. Leo Prakash, Assistant Professor,

Valmurugan N, Vignesh Babu. R, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Experimental Investigation Of Micromilling Processes Applied To Aluminum Alloy Using A Cnc Milling Machine. The Study Involves A Systematic Analysis Of Various Process Parameters Such As Cutting Speed, Feed Rate, And Depth Of Cut To Optimize Machining Conditions For Microscale Components. Through A Combination Of Experimental Trials, Surface Roughness Measurements, And Dimensional Accuracy Assessments, The Research Aims To Evaluate The Micromilling Process's Effectiveness In Achieving High Precision And Quality In Aluminum Alloy Machining. The Findings Contribute To The Advancement Of Micromachining Technology, Offering Insights Into Optimizing Parameters For Superior Surface Finish And Dimensional Accuracy In Microscale Milling Operations.

Keywords: Micromilling, Aluminum Alloy, Cnc Milling Machine, Process Parameters Optimization, Surface Quality, Dimensional Accuracy, Microscale Machining.

277. "Effect Of Pulsed Current On Micro And Macro Properties Of Stainless Steel Welds: A Comprehensive Investigation"

Mr. E. Leo Prakash, Assistant Professor,

Balamurugan .D, Kumaraguru .R, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Delves Into The Impact Of Pulsed Current Welding On Both Micro And Macro Properties Of Stainless Steel Welds. The Study Involves A Thorough Examination Of Welding Parameters, Pulse Frequency, And Duration To Understand Their Influence On The Weld Microstructure, Mechanical Properties, And Overall Performance. Through A Combination Of Metallographic Analysis, Hardness Testing, And Tensile Testing, The Research Aims To Characterize The Welds And Assess The Benefits And Challenges Associated With Pulsed Current Welding. The Findings Contribute To The Optimization Of Welding Processes, Providing Valuable Insights Into Achieving Enhanced Micro And Macro Properties In Stainless Steel Welds Through Pulsed Current Techniques.

Keywords: Pulsed Current Welding, Stainless Steel Welds, Microstructure, Mechanical Properties, Welding Parameters, Metallographic Analysis, Tensile Testing.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road,
Marikandan, Trichy-620 012

278. "Root Cause Analysis Of Defects In Submerged Arc Welding Of I-Beam: Corrective Actions For Quality Enhancement"

Mr. E. Leo Prakash, Assistant Professor,

Arun .S, Balamurugan R.S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Conducting A Root Cause Analysis Of Defects Observed In Submerged Arc Welding Of I-Beams And Formulating Effective Corrective Actions To Enhance Welding Quality. The Study Involves A Comprehensive Examination Of Welding Parameters, Material Characteristics, And Process Conditions Contributing To Defects Such As Porosity, Incomplete Fusion, And Weld Discontinuities. Through A Combination Of Non-Destructive Testing, Metallurgical Analysis, And Process Optimization, The Research Aims To Identify The Root Causes Of Defects And Propose Corrective Measures. The Findings Contribute To The Development Of Guidelines For Improving The Quality Of Submerged Arc Welding In I-Beam Fabrication, Ensuring Structural Integrity And Performance In Various Engineering Applications.

Keywords: Submerged Arc Welding, I-Beam, Root Cause Analysis, Welding Defects, Corrective Actions, Quality Enhancement, Metallurgical Analysis, Process Optimization.

279. "Design And Analysis Of Chassis For Heavy Vehicles: Structural Integrity, Performance Optimization, And Safety Considerations"

Mr. E. Leo Prakash, Assistant Professor,

James Gragory J, Premkumar. T, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Detailed Design And Analysis Of Chassis Structures In Heavy Vehicles, Emphasizing Structural Integrity, Performance Optimization, And Safety Considerations. The Study Involves Comprehensive Engineering Analysis, Material Selection, And Computer-Aided Simulations To Develop An Efficient And Robust Chassis System. Through A Combination Of Finite Element Analysis (Fem), Fatigue Life Assessments, And Dynamic Simulations, The Research Aims To Evaluate The Chassis's Response To Various Loading Conditions And Environmental Factors. The Findings Contribute To Advancements In Heavy Vehicle Design, Providing Insights Into The Optimization Of Chassis Structures To Enhance Durability, Performance, And Overall Safety In Diverse Operating Conditions.

Keywords: Heavy Vehicle Chassis, Structural Integrity, Performance Optimization, Safety Considerations, Finite Element Analysis, Fatigue Life Assessment, Dynamic Simulations, Vehicle Design.

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IG Valley, Madurai Main Road

K.S. Road, Trichy-620 012

280. "Performance Improvement Of Air Conditioning Systems Through Retrofitted Condenser: Enhancing Efficiency And Environmental Impact"

Dr. K. Balamurugan, Professor,

Dhanasekar .C, Felix Arokia Dass S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Aims To Enhance The Performance Of Air Conditioning Systems By Implementing Retrofitted Condensers, Focusing On Improving Efficiency And Reducing Environmental Impact. The Study Involves The Retrofitting Of Existing Air Conditioning Units With Advanced Condenser Technologies To Maximize Heat Exchange Efficiency. Through A Combination Of Experimental Measurements, Energy Efficiency Assessments, And Environmental Impact Analyses, The Research Evaluates The Impact Of Retrofitted Condensers On Overall System Performance. The Findings Contribute To Advancements In Air Conditioning Technology, Providing Insights Into The Potential For Retrofitting Solutions To Enhance Efficiency And Reduce The Carbon Footprint Of Existing Cooling Systems.

Keywords: Air Conditioning System, Retrofitted Condenser, Performance Improvement, Energy Efficiency, Environmental Impact, Cooling Technology.

281. "Optimization Of Cutting Parameters In Cnc Vertical Milling Machines Using Simulated Annealing Algorithm: Enhancing Precision And Efficiency"

Dr. K. Balamurugan, Professor,

John Fernandes .M, Pushparaj .N, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Optimization Of Cutting Parameters In Cnc Vertical Milling Machines Through The Application Of A Simulated Annealing Algorithm. The Study Aims To Improve Machining Efficiency And Precision By Systematically Adjusting Parameters Such As Cutting Speed, Feed Rate, And Depth Of Cut. Simulated Annealing, A Metaheuristic Optimization Algorithm Inspired By Annealing In Metallurgy, Is Employed To Find Optimal Solutions In The Complex Parameter Space. Through A Combination Of Computational Simulations And Experimental Validation, The Research Evaluates The Effectiveness Of The Algorithm In Achieving Optimal Cutting Conditions. The Findings Contribute To Advancements In Cnc Milling Processes, Providing A Systematic Approach To Enhance Machining Performance And Efficiency.

Keywords: Cnc Vertical Milling Machine, Cutting Parameters Optimization, Simulated Annealing Algorithm, Machining Efficiency, Precision Machining, Metaheuristic Algorithms.



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Indra Ganesan College of Engineering
EG Valley, Madurai Main Road,
Manikundam, Trichy-620 017

282. "Development And Powder Characterization Of Hybrid Reinforced Al Metal Matrix Composites Through Mechanical Alloying Method"

Dr. K. Balamurugan, Professor,

Dinesh.K, Dhushanthan.R, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Development And Powder Characterization Of Hybrid Reinforced Aluminum (Al) Metal Matrix Composites Using The Mechanical Alloying Method. The Study Involves The Incorporation Of Multiple Reinforcing Phases Such As Silicon Carbide (SiC), Titanium Carbide (TiC), And Graphene (Gr) To Enhance The Mechanical And Thermal Properties Of The Resulting Composites. Through A Comprehensive Analysis Of The Mechanical Alloying Process, Powder Morphology, And Phase Evolution, The Research Aims To Optimize The Composition And Processing Parameters For Achieving Homogenous Distribution Of The Reinforcing Phases In The Aluminum Matrix. The Findings Contribute To The Advancement Of High-Performance Metal Matrix Composites With Tailored Properties For Various Engineering Applications.

Keywords: Metal Matrix Composites, Hybrid Reinforcement, Mechanical Alloying, Powder Characterization, Silicon Carbide, Titanium Carbide, Graphene, Mechanical Properties, Thermal Properties.

283. "Innovative Button-Operated Electromagnetic Gear Shifting Mechanism For Two-Wheelers: Enhancing Convenience And Riding Experience"

Dr. K. Balamurugan, Professor,

Hameenand.A, Hari Kishore.S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Introduces An Inventive Button-Operated Gear Shifting Mechanism For Two-Wheelers, Employing Electromagnets To Enhance Convenience And The Overall Riding Experience. The Study Involves The Design, Implementation, And Performance Evaluation Of This Innovative System. By Integrating Electromagnets Strategically Within The Transmission System, The Button-Operated Mechanism Aims To Provide Riders With A Seamless And Efficient Way To Shift Gears. Through A Combination Of Experimental Testing, Electromagnetic Actuation Analysis, And User Experience Assessments, The Research Aims To Optimize The Design Parameters For Efficiency, Reliability, And Rider Satisfaction. The Findings Contribute To The Evolution Of Gear Shifting Technologies For Two-Wheelers, Offering A User-Friendly And Technologically Advanced Solution.

Keywords: Button-Operated Gear Shifting, Electromagnetic Mechanism, Two-Wheelers, Transmission System, User Experience, Gear Shifting Efficiency, Innovative


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17, Vazhary, Madhavai #4-10-11-12

284. "Thermal Distribution Analysis In Brake Drum: Investigating Heat Dissipation And Performance Characteristics"

Dr. K. Balamurugan, Professor.

Alagar .M, Nethaji .M, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Conducting A Comprehensive Analysis Of Thermal Distribution In Brake Drums, Aiming To Understand Heat Dissipation Mechanisms And Their Impact On Braking Performance. The Study Involves Computational Simulations, Thermal Imaging, And Experimental Measurements To Map And Analyze Temperature Distribution Across The Brake Drum During Various Braking Conditions. Factors Such As Material Properties, Geometrical Considerations, And Airflow Dynamics Are Investigated To Assess Their Influence On Thermal Performance. The Findings Provide Valuable Insights Into The Design And Optimization Of Brake Drums, With A Focus On Enhancing Heat Dissipation And Overall Braking System Efficiency.

Keywords: Thermal Distribution Analysis, Brake Drum, Heat Dissipation, Braking Performance, Computational Simulations, Thermal Imaging, Brake System Optimization.

285. "Optimization Of Riser Design In Sand Casting Process For Improved Casting Quality"

Dr. A. Anulselvan, Associate Professor.

Palpandi .P, Khan Mohammed.S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Optimizing The Design Of Risers In The Sand Casting Process To Enhance Casting Quality. Riser Design Plays A Crucial Role In Preventing Shrinkage Defects And Ensuring Sound Casting Structures. The Study Involves A Comprehensive Investigation Into The Influence Of Riser Size, Shape, And Placement On The Solidification Process. Through A Combination Of Computer-Aided Simulations, Experimental Trials, And Metallurgical Analysis, The Research Aims To Identify The Optimum Riser Design Parameters That Promote Uniform Solidification And Minimize Porosity In Castings. The Findings Contribute To The Development Of Guidelines For Achieving Enhanced Casting Quality In Sand Casting Processes Through Effective Riser Design.

Keywords: Riser Design, Sand Casting, Solidification, Shrinkage Defects, Casting Quality, Metallurgical Analysis, Optimization.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikavilam, Trichy-620 012

286. "Analysis Of Brittle Fracture In Nodular Cast Iron Diesel Engine Crankshaft: Investigating Material Properties And Failure Mechanisms"

Dr. A. Arulselvan, Associate Professor,

Ananthakrishnan .M, Purushothaman .V, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Delves Into The Analysis Of Brittle Fracture Observed In Diesel Engine Crankshafts Made Of Nodular Cast Iron, Aiming To Understand The Underlying Material Properties And Failure Mechanisms. Through A Combination Of Metallurgical Analysis, Mechanical Testing, And Fracture Mechanics, The Study Explores Factors Such As Microstructural Characteristics, Notch Sensitivity, And Loading Conditions That Contribute To Brittle Fracture. Experimental Data, Including Impact Tests And Fractography, Are Used To Identify Critical Points Of Failure And Assess The Fracture Behavior. The Findings Provide Insights Into The Design And Manufacturing Considerations Necessary To Prevent Brittle Fractures, Ultimately Enhancing The Reliability And Safety Of Nodular Cast Iron Crankshafts In Diesel Engines.

Keywords: Brittle Fracture, Nodular Cast Iron, Diesel Engine Crankshaft, Failure Analysis, Material Properties, Metallurgical Analysis, Fracture Mechanics.

287. "Automobile 'B' Pillar Blind Spot Deduction: Innovative Solutions For Enhanced Driver Visibility And Safety"

Dr. A. Arulselvan, Associate Professor,

Rajadurai .G, Vinothkumar .V, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On The Deduction Of Blind Spots Associated With The 'B' Pillar In Automobiles, Aiming To Enhance Driver Visibility And Overall Safety. The Study Involves The Exploration Of Innovative Solutions, Such As Advanced Camera Systems, Sensor Technologies, And Augmented Reality Displays, To Mitigate Blind Spot Challenges. Through A Combination Of Experimental Testing, Simulations, And Real-World Driving Scenarios, The Research Aims To Assess The Effectiveness Of These Solutions In Providing Drivers With Improved Situational Awareness And Reducing Blind Spot-Related Incidents. The Findings Contribute To Advancements In Automotive Safety Technology, Offering Practical Approaches To Enhance Driver Visibility And Mitigate Blind Spot Issues Around The 'B' Pillar.

Keywords: Automobile 'B' Pillar, Blind Spot Deduction, Driver Visibility, Automotive Safety, Sensor Technologies, Augmented Reality, Innovative Solutions.

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Indra Ganesan College of Engineering

IS Valley, Madurai Main Road

Manikandan, Trichy-620 011

288. "Experimental Investigation Of Pvd And Cvd Coated Inserts In Cnc Milling Machine:Performance Evaluation And Machining Efficiency"

Dr. A. Arulselvan, Associate Professor,

Anbarasan .M, Barath.V, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Conducts An Experimental Investigation Into The Performance Of Pvd (Physical Vapor Deposition) And Cvd (Chemical Vapor Deposition) Coated Inserts In Cnc Milling Operations. The Study Involves A Comprehensive Analysis Of Machining Efficiency, Tool Wear Characteristics, And Surface Finish Quality. Through Systematic Experimentation And Data Collection, The Research Aims To Evaluate The Effectiveness Of Pvd And Cvd Coatings In Enhancing Tool Life, Reducing Friction, And Improving Overall Cutting Performance. The Findings Provide Valuable Insights Into The Selection And Optimization Of Coated Inserts For Cnc Milling Applications, Contributing To Advancements In Machining Processes And Tooling Technologies.

Keywords: Pvd Coating, Cvd Coating, Cnc Milling Machine, Tool Wear Analysis, Machining Efficiency, Surface Finish Quality, Cutting Performance.

289. "Enhancement Of Air-Preheater Performance In Thermal Power Stations:Optimization Strategies And Efficiency Improvements"

Dr. A. Arulselvan, Associate Professor,

Aravindan K.B, Bhuvaneshwaran .S, Iv Year Student, Department Of Mechanical Engineering, Indra Ganesan College Of Engineering.

Abstract: This Research Focuses On Improving The Performance Of Air-Preheaters In Thermal Power Stations, Crucial Components For Enhancing Overall Plant Efficiency. Through A Combination Of Computational Modeling, Experimental Analysis, And Optimization Techniques, The Study Investigates Strategies To Enhance Heat Transfer Efficiency, Reduce Fouling, And Increase Energy Savings In Air-Preheater Systems. Various Design Modifications, Material Considerations, And Operational Parameters Are Explored To Maximize The Heat Exchange Process. The Findings Aim To Provide Practical Insights And Guidelines For Thermal Power Station Operators And Engineers To Optimize Air- Preheater Performance, Thereby Contributing To Increased Energy Efficiency And Reduced Environmental Impact In Power Generation.

Keywords: Air-Preheater, Thermal Power Station, Heat Transfer Efficiency, Fouling Reduction, Optimization Strategies, Energy Savings, Computational Modeling.


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Indra Ganesan College of Engineering

13 Vellore, Madurai Main Road

Kizhambad, Trichy-620 012

290. SIMPLE AND COST EFFECTIVE METHODS OF WATER PURIFICATION OF RURAL COMMUNITIES

VIGNESH R, ARUN R, MS KALAYANI T¹

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Water is very important for life. About 71 percent of the Earth's surface is covered by water, and the oceans have 96.5 percent of all Earth's water, out of which 2% is fresh water. But the bitter truth is even this 2% is of fresh water is not portable due to pollution. The main aim of this project is to purify the ground water that has been taken from the village near Annur. Various physicochemical properties of drinking water collected from the village are analyzed. Traditional, easy and cost-effective methods to purify water are available throughout. This makes water portable and safe one. We have used around 12 materials to treat the ground water. Some of them are coconut shell, coconut coir, lemon peel, wood apple shell, gooseberry seeds, sand filter, and thulasi leaves. These materials, helps to purify the water and also helps to reduce the cost of the project. Among these materials, gooseberry seeds and activated charcoal have been used. And these materials gave good results. The water has been also treated through sand filter. Comparative results have been made among the sand filter and gooseberry seeds and also with charcoal. Finally, after treating, analysis have been made effectively. To check the quality of water has been given to a group of people containing students, staff, teachers, villagers and other people. Rice have been also cooked with the treated water.

Keywords : white precipitate, gooseberry seeds, activated charcoal, sand filter

291. Effect of diary effluents on seed germination and plant growth of *Vigna radiata* (L) Wilczek under pot experiment

BALAMANKANDAPRABHU B, BHARATHI S, MS KALAYANI T¹

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The paper aims to see the effect of the waste water effluents from dairy industries as a potential, alternate source for fresh water irrigation. The study was made on Green gram (*Vigna radiata* (L) Wilczek), for its fast growing property. The effluents were taken as both treated and untreated samples in the concentrations of 25, 50, 75, and 100 % with water as a control for each group individually. The samples physio-chemical properties like; pH, colour, odour, Total Dissolved solids (TDS), etc... were studied. Similarly, seed germination, shoot length, root length, plant weight were studied. The plants grew exceedingly well in low concentration of treated sample compared to untreated samples of dairy effluent.

Keywords : Effluent, Green gram, Seed germination, Growth, physio-chemical property

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16 Vally, Madurai Main Road
Manikandan, Trichy-620 012

292. Evaluation of *in vitro* antioxidant properties of *Persea americana* fruit and seed solvent extracts

GONTHAM C, INDIUMATHI S, MS. KALAIYANI T¹

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Avocado *Persea americana* is a tropical fruit native to Mexico and Central America, rich in functional bioactive compounds. Production and consumption of avocado have increased to 5.6 million tons per year worldwide. The enriched bioactive compounds in a typical serving of avocado (100g) empower its potential candidature in medical and cosmetic industrial applications. In this study, Fruit and Seeds of Avocado was extracted with different solvents viz., Water, Chloroform & Petroleum ether and various Phytochemical evaluation were done. The Total Phenolic content, Tannin content and Flavonoid content were determined for all respective fruit and seed extracts. Aqueous extract of fruit and chloroform extract of seed showed maximum DPPH scavenging activity 29.3±0.49%, 35.61±0.45% respectively. Petroleum ether extract of Fruit (78.32%) and seed (87.84%) showed maximum ABTS scavenging activity. The Ferric ion reducing activity of aqueous extract of seed showed maximum of 275.61±0.05 Ascorbic acid Equivalent Activity (AEAC mg/100mg of extract). Total antioxidant activity by phospho-molybdenum assay of chloroform extract of seed remained maximum activity of 116.95±0.45 (AEAC mg/100mg of extract) The chloroform extract of Fruit showed a maximum Metal chelating (76.71%), Hydroxyl radical scavenging (31.89%) and Cupric ion reducing activity 203.03±0.88 AEAC mg/100mg of extract respectively. Avocado seed Chloroform extract showed 84.35% of Nitric oxide scavenging activity and Petroleum ether extract showed a maximum of 55.85% of Superoxide radical scavenging activity. The significant activities of extract evidence the antioxidant potential of Avocado.

Keywords: Avocado, antioxidant activity, ABTS, DPPH

293. TECHNIQUES TO ASSESS THE SUBCELLULAR LOCALIZATION OF PROTEINS IN BACTERIA

ISHWARYA P¹, KALAIYARASAN V², MS. KALAIYANI T³

³Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Protein-protein interaction in bacteria is essential for several important functions such as cytokinesis, cell wall synthesis, quorum sensing, and scoping of DNA during replication. Therefore, it is essential to understand subcellular localization of bacterial proteins. In the past decades protein localization and their interactions were studied using fluorescent proteins (FPs) and fluorescent tags (tags). In the article, we discuss about working mechanisms of those FPs and tags. In addition, we critically evaluate the merits and demerits of existing FPs and tags. We believe this article will serve as a beginners guide to choose appropriate FPs and tags.

Keywords: Protein-protein interaction, Fluorescent proteins, and tags.

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Indra Ganesan College of Engineering
JG Valley, Almedurai Main Road
Mankandam, Trichy-620 012

294. DEVELOPMENT OF NUTRI-BISCUITS FROM MILLETS

KEERTHIKA K¹, KEERTHIKA V², MS. KALAIYANI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Biscuit was produced from blends of millets and wheat flour in the ratio of 60:40. The 100% cholesterol free organic biscuit can prevent oxidative rancidity and also improved protein stability. Naturally there was no increase of cholesterol in blood, after consuming of organic biscuits, so it can be consumed on regular basis. Fiber content can provide easy digestion to the older people, and also reduces constipation. Nuts has diverse nutritional properties in the biscuit that enhances many health benefits, including the memory power of the children. So it is recommended for all age groups.

Keywords: Millets-health benefits-organic-cholesterol free- high fiber

295. METAGENOMIC STUDIES OF MICROBLAL COMMUNITY FROM MILK SAMPLES

KRISHI GOWTHAM R¹, LOGADIPA S P², MS. KALAIYANI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Metagenomics has allowed a culture-independent study of whole genome of the microbial community in the environment and identify any genes that can be harnessed to act as a biocatalyst or establish a relationship between function and phylogeny. In this study, we collected raw and pasteurized milk samples from a dairy industry at Coimbatore in the state of Tamil Nadu, India to perform metagenomic studies. Genomic DNA was extracted and Nanopore sequencing was performed. Further analysis of the sequence using Bioinformatics tools is done. By identifying the microorganisms in the milk sample, we can also come to determine the spread of infections among cattle and the contamination in the dairy products. The pasteurization has decreased the pathogenic organisms in milk by 68.6%, the opportunistic pathogens have been decreased by 88.8% and the spoilage organisms content have increased by 68%. This is due to the nature of the spoilage organisms. They are psychrotropic and have the ability to grow at cold storage conditions after pasteurization. By monitoring the organisms present in the milk samples, the quality of milk and the dairy products can be improved. The Nanopore sequencing is shown to be an effective way of sequencing and identifying organisms present in the samples.

Keywords: Metagenomics, milk, pathogens, opportunistic pathogens, Bioprospecting.

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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mankandam, Trichy-620 012

296. RETREATMENT OF TOXIC INDUSTRIAL EFFLUENT BY MICROALGAE CULTIVATION FOR POTENTIAL BIOFUEL PRODUCTION

MOHAMED NWSATH M¹, MOORTHY C², MS. KALAIVANI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Industrial effluent having Organic & Inorganic chemicals which were released into the environment as a result of domestic, agriculture and industrial water activities lead to environmental pollution. The process have been used to treat the industrial effluents to eliminate the easily settled organic chemicals present in effluent and which is reused for beneficial purpose. This effluent is however loaded with some inorganic chemicals like N₂ & P and causes eutrophication, longer term problems because of the heavy metals that are released. Microalgae are the third generation source provides a valuable way for treatment of effluents, because they provide tertiary bio-treatment along with the production of biofuel. Microalgae have the ability to utilize inorganic N₂ & p as a nutrient for their growth. And also, capacity to use heavy metals as well as some toxic chemicals. In this present study, the industrial effluents were treated by *Chlorella sp.*, *Scenedesmus sp.* to screening for the effective utilization of nutrients from effluent. And also the growth was observed in the addition of Macromolecules, Micronutrients and effluent. The bio treated effluent was undergone for physico-chemical properties. From this study we concludes that the *Chlorella sp.*, and *Dreanococcus sp.*, shows the maximum growth and highlighted on effective utilization of organic & inorganic substances and should be used for biofuel production

Keywords: Effluents, Inorganic N₂ & P, Microalgae, Macro & Micronutrients, Biofuel Production

297. IN VITRO INHIBITION OF KEY CARBOHYDRASES, CHOLESTEROL ESTERASE AND ANGIOTENSION CONVERTING ENZYME BY CRUDE EXTRACTS OF COCCINLAGRANDIS IMMATURE FRUITS TO REGULATE DIABETES MELLITUS, HYPERTENSION AND ASSOCIATED CARDIOVASCULAR DISEASES

NANCY N¹, NESAKUMAR R², MS. KALAIVANI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Over 200 million people are affected worldwide with diabetes mellitus and remains as a key risk factor to form several allied cardiovascular diseases and hypertension. In this study, an attempt was made to investigate the inhibition capacity of *Coccinlagrandis* immature fruits against key enzymes such as α -amylase, invertase, cholesterol esterase (CEase) and angiotension converting enzyme (ACE). Hot water extraction was adopted to extract polyphenols from immature fruits and ammonium sulphate precipitation was performed to remove the protein impurities. The ammonium sulphate fractionate was used to study the *in vitro* inhibition of above mentioned key enzymes using standard spectrophotometric assays. The hot water extracts (40% ammonium sulphate fractionate) showed a significant inhibition against α -amylase (97.17 \pm 0.01%), invertase (96.99 \pm 0.02 %),

cholesterol esterase (83.60 \pm 0.001 %) and ACE (73.62 \pm 0.001%). Moreover, Student's t-Test analysis has revealed the influence of ammonium sulphate concentration in the inhibition of α -amylase (p = 0.024), invertase (p = 0.01) and CEase (p = 0.05). The study revealed the significant inhibitory property of *Coccinlagrandis* against carbohydrates, CEase and ACE.

Keywords: ACE, α -amylase, cholesterol esterase, Coccinlagrandis, Invertase

298. PURIFICATION OF POLYGALACTURONASE FROM EDIBLE MUSHROOMS FOR FRUIT JUICE CLARIFICATION

PRAVEEN K¹, RANJANA S², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Polygalacturonase is used commercially in the clarification and extraction of fruit juice from different fruits by hydrolyzing the pectin substance present in plant cell wall. It has also been used to increase yield of fruit juices. The present investigation was undertaken to screen edible mushrooms such as *Agaricus bisporus*, *Pleurotus florida*, and *Pleurotus plaryus* for polygalacturonase enzyme. Optimization of parameters such as temperature, pH, pectin concentration and time for polygalacturonase enzyme activity were carried out. Selection of *Pleurotus florida* for partial purification of polygalacturonase was based on high enzyme activity (112.46 U) and optimum pH at 3.6. Purification fold and yield of enzyme activity after ammonium sulfate precipitation were 4.96 and 58.8, respectively. Polygalacturonase from *Pleurotus florida* has a great potential in industrial-level fruit juice clarification due its generally regarded as safe status and economical viability.

Keywords: Polygalacturonase, edible mushrooms, *Pleurotus florida*, clarification of fruit juice.

299. DEVELOPMENT OF IRON RICH INSTANT SOUP MIX

RAVINYA K¹, SAKTHIVEL M², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Girls of all age groups in current generation are feeling weak or fatigue and they may also experience some symptoms of anaemia. This is because they have eating healthy green leafy vegetables. There are varieties of green leafy vegetables rich in iron and other vital micronutrients. Some of the underutilized green leafy vegetables such as Cauliflower, carrot, beetroot, drumstick and curry leaves are used to make an instant soup mix that may enhance haemoglobin count. The dried powder of Cauliflower, carrot, beetroot, and curry leaves are taken at 1%, 2%, 3%, 4%, 5%, 6% and drumstick leaf powder is taken at 17%, 28%, 29%, 30%, 31%, 32%. The soup mix with 1% of Cauliflower, carrot, beetroot, and curry leaves and 27% of drumstick leaves were found to be acceptable in the sensory analysis. Whereas other trials with different combination were less acceptable. The sensory analysis of 45 trials is done one by one using 9 point hedonic scale. The trial-5 is best and mostly acceptable comparing to all other compositions.

Keywords: Iron, Anemia, Green leafy vegetables, Instant soup

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Manikandan, Trichy-620 021

300. REMOVAL OF DYE FROM THE INDUSTRIAL EFFLUENT USING MICROBIAL CONSORTIUM ISOLATED FROM DIFFERENT REGIONAL DYE INDUSTRIES

SARANYA P¹, SUVALAKSHMI P², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Environmental pollution is caused by release of various chemicals and is a consequence of industrial progress which has now become a persistent environmental contaminant. This work deals with the removal of dyes from the industrial dyeing effluent using microbial consortium. Myco remediation is a feasible method for degrading the dyes in the house effluent. The dyes chosen for the study were Foron Black, Reactive Red and Dye effluent. Bacterial and Fungal consortiums were isolated from the industrial soil and employed for the biodegradation of three synthetic dyes namely Foron Black, Reactive Red and Dyeing effluent. The bacterial isolates imparted a maximum removal of 60% of dyes in the dyeing effluent, 55% of Reactive Red and 40% of Foron Black. The fungal isolates showed the percent dye decolorization as 80% in Dye Effluent, 75% in reactive red and 60% in Foron Black. Chemical Oxygen Demand in the effluent as a physico-chemical parameter has been to quantify the amount of organics in water. The COD for effluent was 0.8mg/l. Thus, these microbial isolates can be used to degrade dyes in textile dyeing and other industrial effluents to sustain the environment.

Keywords: Myco remediation, effluent, dye

301. TOTAL PHENOL, FLAVONOIDS AND TANNIN CONTENT OF GYMNEMASYLVESTRE PLANT LEAF IN COMPARISON TO CALLUS

SWEATHA B¹, VIGNESHWARAN V², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Medicinal plants are serving as natural potent source for the therapies and treatments since the ancient times. With the benefit of having no or less side effects and immense potential, they are widely used among various pharmaceutical industries for drug development. Thus in the present investigation, the phytochemical analysis of *Gymnema sylvestre* was proved as one of the important medicine for the treatment of Diabetes I and II. The phytochemical analysis was carried out for the leaves and callus of the plant extracted using aqueous methanol solvent. The presence of high amount of phytochemical compounds suggest that the *Gymnema sylvestre* plant has higher medicinal value and can be extensively studied to extract the natural compounds which are beneficial to human beings and that could be commercialized for higher production rather than using synthetic drugs with side effects. Leaf explants were grown in MS medium with LAA 1.5 mg/l and BA 0.5 mg/l and after 2-3 weeks of incubation some parts of explants enlarged and gave rise to pale yellowish callus. In this study, naturally growing *Gymnema* plants leaf extracts were compared with callus extracts to identify the bioactive compounds which were analyzed by TLC, FTIR methods.

Keywords: Gymnemasylvestre, callus culture, phytochemical analysis, TLC, FTIR

302. PLANT BIOMASS WASTE AS SOURCE FOR BIOGAS PRODUCTION

VDAYALAKSHMI B¹, MOORTHY C², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Energy crisis, one of the major factors to be considered in the development of the modern world. Generally biogas is being produced using the poultry droppings and cow dung. Here we have utilized shredded waste leaves as an additive to the cow dung in the production of biogas. The shredded leaves of arca nut and Indian walnut plants obtained from KCT campus were used for biogas production. Dried leaves were collected and then powdered. Totally three set ups were being made. First set up was prepared by mixing 2 kg of cow dung only in 15 litres of water. Second set up was made by mixing 2 kg of cow dung with 2 kg of powdered dried leaves in 15 litres of water. The third set up was made by mixing 2 kg of cow dung with 4 kg of powdered dried leaves in 15 litres of water. All the three set up were maintained for a time period of 15 days at 28±30. The amount of methane gas produced was recorded at regular intervals using gas flow meter. Biogas was then collected in plastic syringes and gas chromatography was carried out. Thus, a comparison study of production of biogas with and without plant biomass was done and concluded that the presence of leaf biomass has increased the biogas production.

Keywords: Biogas, Arca nut, Indian walnut tree, Cow dung, Gas Chromatography, Dry biomass, Plant leaves.

303. System Biological Analysis for molecular typing of Subtypes of Breast Cancer Cell Lines

YATHESH M¹, AARULRAJ², MRS. SUGASHINI T³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The systems biology approach to tackle complex biological problems has rapidly gained prominence in the recent past. Various approaches including the reverse engineering approach, grouping expression levels by genetic pathway, and a robust strategy of identifying genetic networks from protein networks. The latter approach was used in the current study. Data from a 56 cell line breast cancer RNAseq expression set was analysed for unique signature expression patterns including similarities and differences amongst the samples. Pathway analysis and protein network was carried out and key genes whose gene products are prominently important in the cancer types studies were identified (IL6, EGFR, CDH1, IL1B and EGF). Gene Ontology analysis and Pathway enrichment analyses were indicative of large scale modifications in components involved in cell-cell interactions like Keratinization, extracellular matrix organization and integrin cell surface interactions. It emerges that the systems approach is a fundamentally rapid as well as robust method to cancer

Keywords: PPI networks, Gene ontology, Breast cancer cell lines, Biocductor, Cytoscape

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KG Valley, Madhav Mohan Road
Manikandam, Trichy-620 0

**304. INFLUENCE OF EXTRACTION CONDITIONS ON *IN VITRO*
ANTIOXIDANT AND PHYTOCHEMICAL POTENTIAL OF
DIFFERENT
SOLVENT EXTRACTS OF DELONIX REGIA FLOWERS**

BARATH M¹, MANIKANDAN A², MRS. SUGASHINI T³

²Assistant Professor, ¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Delonix regia commonly referred as Gulmohar in India is a rich source of antioxidants. The main objective of this study is to investigate the *in vitro* antioxidant and phytochemical potential of *Delonix regia* leaves. Ten extracts of the leaf sample were prepared using five different solvents, acetone, ethyl acetate, hexane, methanol and petroleum ether by two different methods, Soxhlet extraction and extraction in shaker at room temperature. A broad spectrum of assays was performed to evaluate *in vitro* and endogenous antioxidant potential of the sample. Characterization for identifying phytochemicals was also performed using techniques like HPTLC and FTIR. The overall results proved that the method of extraction and solvent used are highly influential factors in the estimation of antioxidant potential. The tests suggest *Delonix regia* as a trailblazer among legume sources with massive antioxidant potential. The extracts could be purified and used in the development of a commercial nutrient portion, which will ultimately become the elixir of human life – a solution to all health problems of mankind.

Keywords: *Delonix regia*, antioxidant, ROS, phytochemicals, solvents

**305. ULTRASONIC STUDIES OF ACETOACETANILIDE (AAC)
WITH SOLVENTS (HOT WATER (100°C), 1,4-DIOXANE)**

MANIKANDAN K¹, PONNALAGU C² Mr.C.Arul³

³Assistant Professor, ¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Many of organic materials have been chosen due to their NLO property and speedy response to optical effects compared to their inorganic counterparts [1-5]. Acetoacetanilide has a molecular weight of 177.19 and the melting point of AAC is 83-88°C. Ultrasonic effects of AAC with solvents are discussed here at different concentrations and also wavelength, velocity, compressibility, acoustic impedance are measured at these different concentrations.

Keywords: AAC, Ultrasonics, wavelength, velocity, compressibility, impedance


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IS Valley, Madurai Main Road
Manikandan, Trichy-620 012

306. DESTRUCTIVE EFFECTS OF DISTRACTION ON YOUNGER GENERATION

SALAMON A¹, SARAVANAKUMAR N², Mr.C.Arul³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Distraction is the process of deviating one's concentration from the desired task. It can be from both external as well as internal factors such as laziness, lack of attention, nervousness, addiction towards electronic gadgets, more passionate on social media etc. Various psychological studies illustrate the switching between responsibilities occurs among the mankind. Sometimes distraction is valuable for human to forget or escape from their agony. But at the same time it creates destructive effect on younger generations. This study focuses on the various internal and external factors which distracts the younger generation especially students studying in the undergraduate courses. Once they deviate due to lack of attention, they involve themselves in hostile activities, develop unnatural behaviours which affects their carrier and sometimes makes it impossible for them to reach their ambitions. A quantitative method was used in gathering and analysing the data by distributing questionnaires to the students. The results obtained were analysed for different factors that cause stress among students.

Keywords: Textile sludge, pavers, concrete

307. MESO-TETRAPHENYLPORPHYRINIRON(III) CHLORIDE CATALYZED OXIDATION OF ANILINE AND ITS SUBSTITUENTS BY TERT-BUTYLHYDROPEROXIDE IN AQUEOUS ACETIC ACID MEDIUM: DEGRADATION KINETICS

SOLAIMATHI K¹, DAYANA P², Mr.C.Arul³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The most charming characteristic feature of heme-enzymes such as cytochromes P450 is their capacity to carry out oxidations reactions with high specificity. Metalloporphyrin complexes are used as mimetic compounds for cytochrome P450. A kinetic study was carried out with the intention of understanding the mechanism on oxidation of anilines by tert-butylhydroperoxide catalyzed by meso-tetraphenylironporphyrin(III) chloride in aqueous acetic acid medium. The reaction is second order with respect to the substrate and first order with respect to the catalyst and oxidant. Degradation of the catalyst is found while varying the catalyst. Product analysis proved that azobenzene is the only product in the catalytic oxidation. The increase in hydrogen ion concentration retards the oxidation rate of the reaction. The substituent effects on the oxidation rate were studied with meta- and para- substituted anilines at different temperatures. The thermodynamic parameters were determined and discussed. The tert-butylhydroperoxide catalysed oxidation with substituted anilines justifies the isokinetic relationship and Eyring correlation but not to any of the linear free energy relationships. The solvent relations also plays a role in leading the oxidation reactivity. Based on the kinetic study and product analysis a suitable mechanism is proposed.

Keywords: Aniline, oxidation, tert-butylhydroperoxide, meso-tetraphenylporphyriniron(III) chloride

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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

308. ENVIRONMENTAL PROTECTION THROUGH GREEN CHEMISTRY

DEVIKA K¹, DINESH J² Mr.C.Arul³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Green chemistry is an area of chemistry that reduces the production, fabrication and use of hazardous substances. Green chemistry focuses mainly on chemical synthesis, processing of chemicals in industrial applications and laboratory practices. The Environmental protection agency in USA and Royal Society of Chemistry in UK had played a significant role in green chemistry by funding and professional coordination.

Keywords: Green chemistry, environmental protection, chemicals

309. STUDIES ON SYNTHESIS, CHARACTERIZATION, DNA BINDING, DNACLEAVAGE AND IN VITRO ANTICANCER ACTIVITY OF RUTHENIUM(III) SCHIFF BASE COMPLEXES

MOHANA SUNDARAM K¹, RAVIKUMAR B² Mr.C.Arul³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The ruthenium(III) complexes of the type $[RuCl_2(EPh_3)L]$ were synthesized from the reactions of Schiff base ligand with $[RuCl_3(EPh_3)_3]$, (where E = PrAs; L= monobasic tridentate Schiff base ligand). Structural features of the ligand and complexes were determined by various physico-chemical and spectroscopic techniques. DNA binding of the ligands and complexes were investigated by absorption spectroscopy which indicated that the compounds bind to DNA via electrostatically. A gel electrophoretic pictogram demonstrated the ability of the complexes to cleave the pBR322 DNA through an oxidative process. The efficiency of complexes to arrest the growth of HeLa tumor cell lines has been studied along with cell viability test under in vitro conditions.

Keywords: Ruthenium(III) complexes, dihydroxybenzaldehyde, DNA binding, DNA cleavage, Cytotoxicity

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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

310.A COMPARATIVE STUDY ON PHYSICO-CHEMICAL PARAMETERS OF PRE- AND POST-MONSOON GROUNDWATERS OF VELLIANGADU VILLAGE, COIMBATORE, TAMILNADU, INDIA

SANTHANARAJA¹, SHYAM C.R.², MR.C.ARUL³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Groundwater quality plays an important role in conservation of water resources not only for the present generation but also for the future generation. Each and every harvest season witness excessive use of pesticides and fertilizers in the agricultural fields. During a monsoon season these potential hazards leaches into the soil and mixes with the groundwater. This paper aimed at studying the Physico-chemical parameters of pre- and post-monsoon groundwater quality of Velliangadu Village of Coimbatore district in the state of Tamil Nadu to reveal the water quality parameters before and after a monsoon season. The Physico-chemical parameters considered for drinking water like pH, electrical conductivity, total dissolved solids, total alkalinity, total hardness, dissolved oxygen, chlorides etc. were analysed for pre-monsoon and post-monsoon groundwater samples collected from different areas and compared.

Keywords: Pre-monsoon, Post-monsoon, Groundwater, Physico-chemical, Velliangadu

311. SPECTROSCOPIC AND DIELECTRIC CHARACTERIZATION OF AMMONIUM HEXA AQUA FERRATE (II) SULPHATE $\{(NH_4)_2Fe(SO_4)_2 \cdot 6H_2O\}$ CRYSTALS

SRIKANTH M¹, SURENDRAN S², MR.C.ARUL³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

A good quality single crystal of a crystal, $(NH_4)_2Fe(SO_4)_2 \cdot 6H_2O$ with dimensions $6 \times 7 \times 3$ mm³ was successfully grown by the slow evaporation growth technique at ambient temperature. The grown crystal was subjected to single crystal X-ray diffraction study which confirms that the grown crystal is monoclinic in nature with the space group P21/c. Optical absorption spectrum reveals that the grown crystal has good optical transparency in the entire visible region and its energy band gap was determined. The thermal behavior of the grown crystal was investigated by thermo gravimetric and differential thermal analysis. The dielectric measurements were carried out to determine the dielectric behavior of the crystal.

Keywords: Corrosion, adsorption, Mild Steel, Pharmaceutical drug, EIS

312. ANTIBACTERIAL ACTIVITY OF COMPOSITE OF NANO MgO - DELONIX REGIA ACTIVATED CARBON AGAINST SELECTED BACTERIAL STRAINS

SURYA V¹, SWETHA K², Mr.S.Hussain³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract


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IG Valley, Madurai Main F
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Star shaped Magnesium Oxide nanoparticles were synthesised through sol-gel method using alkaline magnesium nitrate solution at room temperature. Hydrated Magnesium Oxide nanoparticles were annealed in air at 400°C to yield Magnesium Oxide Nanoparticles. FESEM studies showed that the size of the nanoparticles were between 50 – 80nm. X-ray Diffraction studies clearly showed that the synthesized magnesium Oxide were in good crystallinity. The antibacterial activity of Nano MgO- Delonix Regia Activated carbon was evaluated against bacterial strains namely, Bacillus subtilis, Escherichia coli, Enterobacter aerogenes, Micrococcus luteus, Pseudomonas aeruginosa and Staphylococcus aureus.

Keywords: Magnesium Oxide, Composite, Activated carbon, Delonix Regia, antibacterial.

313. CHEMICALLY MODIFIED CELLULOSE BEARING SCHIFF BASE BENZOTHAZOLE CHELATING GROUPS FOR THE REMOVAL OF COPPER IONS FROM AQUEOUS SOLUTION: KINETIC AND EQUILIBRIUM STUDIES

AATHILINGAM V¹, ABIMANYU C², Mr.S.Hussain³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

A new chemically modified cellulose (Cell-ABT) adsorbent bearing pendent Schiff base with benzothiazole chelating groups was synthesised. The new modified cellulose was examined for the removal of Cu(II) from aqueous solution. The experimental conditions and adsorption parameters, such as pH, contact time, adsorbent dose, temperature and initial metal ion concentration were optimised. The structural characteristics of the adsorbent were determined using FT-IR, solid state ¹³C-NMR, SEM, EDX and TGA analysis. Adsorption kinetic parameters of pseudo-first-order, pseudo-second-order and intraparticle diffusion models were used to fit the experimental data. Adsorption isotherms such as Langmuir and Freundlich have been investigated. Also the thermodynamic parameters ΔG° , ΔH° and ΔS° have been evaluated. The Cell-ABT adsorbent can be effectively regenerated with significant level of adsorption after several uses.

Keywords: Modification of cellulose, selective oxidation, heavy metal removal, Adsorption kinetics

314. A STUDY ON THE KINETICS AND MECHANISM OF OXIDATION OF MMA BY NCP IN AQUEOUS ETHANOL MEDIUM

AJAY S¹, CHRISTY LOURTHU SAMY A²,

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The synthesis of the oxidant N-chloro-3-methyl-2,6-diphenyl piperidine-4-one (NCP) is carried out in two stages. The oxidation kinetics of maleic mono p-methyl aniline (MMMA) is studied in presence of acid. The order of the reaction with respect to NCP and MMMA is ascertained. The effect of acid strength, ionic strength and dielectric constant of the medium on the rate of the reaction has also been investigated.

Keywords: N-chloro-3-methyl-2,6-diphenyl piperidine-4-one (NCP), maleic mono p-methyl aniline (MMMA), Oxidation kinetics



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19 Valley, Madurai Main Road

Chithambam, Trichy-620 012

315. SYNTHESIS, GROWTH, SPECTRAL, IN SILICO, THIRD ORDER AND PRELIMINARY BIOLOGICAL STUDIES OF A NEW THIRD ORDER NLO CRYSTAL, ADENINIUM BIS (4-CHLOROBENZENESULFONATE) MONOHYDRATE

HARIKRISHNA¹, PERIYASAMY P², Mr.S.Hussain

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

A new organic salt, adeninium bis (4-chlorobenzenesulfonate) monohydrate (ACBS) has been synthesized and single crystals of it grown by slow solvent evaporation solution growth technique at ambient temperature. The crystal was characterized by FT-IR, ¹H and ¹³C NMR spectral studies. The structure of the grown crystal was established by single crystal X-ray diffraction analysis. The recorded UV-Vis-NIR spectrum indicates that the crystal is transparent in the entire visible region. TGDJA analysis carried out on the ACBS crystal indicates that the crystal is stable up to 220°C. The third order nonlinear susceptibility of the ACBS salt was established by the Z-Scan study. Computational studies such as optimization of molecular geometry, molecular electrostatic potential HOMO-LUMO analysis were performed using Gaussian 09 software by B3LYP method at 6-311G (d, p) level. Natural bond orbital (NBO) analyses were carried out to find the strength of hydrogen bonding interactions in ACBS crystal. Moreover, the antimicrobial activity of the ACBS salt was carried out on various bacterial and fungal strains and the DNA binding studies of the ACBS salt was carried out by using Ct-DNA.

Keywords: NLO, single crystal, adeninium bis (4-chlorobenzenesulfonate) monohydrate

316. EFFECT OF BROAD SPECTRUM DRUGS ON CORROSION INHIBITION OF MILD STEEL IN CHLORIDE MEDIA

RENGANATHANT¹, SARAVANAKUMAR V², Mr.S.Hussain³

³Assistant Professor, ^{1,2}U.O Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The inhibitive capabilities of drug, on the electrochemical corrosion of Mild Steel in chloride media has been studied using weight loss measurements. The results indicate that drug inhibit metal corrosion in the chloride media. The inhibition efficiency of the drug decreases by increase in chloride concentration. Potentiodynamic polarization suggests that it is mixed type of inhibitor. Electrochemical impedance spectroscopy and Cyclic Voltammetry was used to examine the mechanism of corrosion inhibition. Its adsorption was found to be physical and spontaneous as confirmed by the values of free energy and also fitted Langmuir model. The data collected from the results shows that various concentrations of drug inhibited the oxidation in chloride solution through the adsorption of the inhibitor molecule on the superficial surface by obstructs its active sites

Keywords: Corrosion, adsorption, Mild Steel, Pharmaceutical drug, EIS

317. EXPERIMENTAL INVESTIGATION OF AXIAL COMPRESSION BEHAVIOUR OF SHOCK WAVE COMPACTED CONCRETE FILLED STEEL TUBE (CFST) TO INCREASE STRENGTH AND SUSTAINABILITY

SENTHIL KUMAR M¹, SIRIYAC SELVA A², Mr.S.Hussain³

³Assistant Professor, ^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

Abstract

Concrete filled steel tubes (CFST) are a type of the composite structures used presently in civil engineering and consists of steel tube and concrete core inside it, in which hollow steel section is filled with high strength concrete. It combines the advantages of both hollow structural steel and concrete. Concrete filled steel tubes (CFST) are also used extensively in other modern civil engineering applications. When they are used as structural columns, especially in high-rise buildings and bridges, the composite members may be subjected to high shearing force as well as moments under wind or seismic actions. The main economy achieved by using high strength concrete in thin steel casings is that the structural steel cost is minimized and the majority of the load in compression is resisted by the high strength concrete. However, bare steel or reinforced concrete columns are still used more extensively than CFSTs due to the lack of knowledge and experience that Engineers have with CFST structural systems. This paper compares the axial compression behaviour of shock wave compacted Normal Concrete Filled Steel Tube (CFST) Column and Self Compacting Concrete Filled Steel tube. The specimens used for this experiment are 100mm diameter steel tubes with 1.6mm thickness and height 300mm.

Keywords: Concrete Filled Steel Tubes (CFST), Composite structures, Shock wave, Axial Compression, Self-Compacting Concrete, Column

318.A PRELIMINARY REVIEW ON LEAN IMPLEMENTATION IN DIFFERENT SECTORS AND LOCATION

SURIYAGANESH M¹, VAITHIYALINGAM M², Mr.S.Hussain³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Lean techniques are widely used across many countries in different sectors. The main objective of lean concept is to minimize the wastes generated during any production. Lean management is a continuous improvement technique which mainly focuses on removing the non-value adding steps in any process of a production. On account of understanding the lean concept in full depth, review has been carried out about lean implementation on different sectors in different countries. From review study, it has been found that implementation of lean methodology offers many benefits to the company such as waste minimization, quality enhancement, on time delivery, clean environment and uninterrupted flow of production process. On personal perspective, from existing research on lean implementation in construction, some of the lean tool helps to achieve zero waste in construction sector. Hence an idea to develop a new lean tool for overcoming this hurdle may be considered for future research.

Keywords: Lean techniques, sectors, location, benefits

319. OPTIMIZATION OF PREFABRICATED STRUCTURE COMPONENTS

VIKASH R¹, SIRIYAC SELVA A², Mr.S.Hussain³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

With rise in mass housing schemes such as Pratah Mantri Awas Yojana (PMAY) there is immense stress on resources of the country to provide such mass construction. Prefabricated structures can be used for this purpose of mass construction for increased speed and uniformity. The cost of construction of such structures can also be optimized so that the saved fund can be used to extend the scope of the scheme. This paper makes use of mathematical optimization methods to optimize components of precast construction using MATLAB. The variables used in slab optimization are thickness of slab, diameter of reinforcement and spacing of reinforcement. This paper also elaborates the superiority of the method used in comparison to other methods of optimization.

Keywords: Machine Learning, Classification, Accuracy, Autism



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Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

320. EXTENT OF EFFLORESCENCE FORMATION IN VARIOUS BRANDS OF PORTLAND POZZOLANIC CEMENTS

KAVIYA K¹, KEERTHIKROSHAN P², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Recently Portland Pozzolana cements are being widely utilized as construction materials in order to reduce environmental load like abundant CO₂ emission. PPC is cement where the quantity of cement is partially replaced with fly ash content. This work presents an evaluation of efflorescence extent in cement mortar with in various brands of PPC. In order to evaluate the efflorescence extent and to determine the surface area of efflorescence formed quantitatively analyzed through SEM analysis.

Keywords: *Cement, efflorescence, SEM analysis*

321. TREATMENT OF GREY WATER BY MEMBRANE BIO REACTOR PROCESS USING POLYETHENE NON-WOVEN FIBRE FILTER

VIKASH R¹, AKASH V², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In India, the water scarcity is one of the major issues upcoming from the rural areas, which necessitates grey water treatment options generated from domestic sources in rural areas and need for conceptualizing a treatment scheme to reduce cost. Greywater is all wastewater that is discharged from a house, excluding black water (toilet water). This includes water from showers, bathtubs, sinks, kitchen, dishwashers, laundry tubs, and washing machines. It commonly contains soap, shampoo, toothpaste, food scraps, cooking oils, detergents and hair. Greywater makes up the largest proportion of the total wastewater flow from households in terms of volume. Typically, 50-80% of the household wastewater is greywater. The aim of this work was to investigate the feasibility of using natural filter attachment media in the treatment of greywater for the removal of suspended, colloidal and Organic Particles. The laboratory scale grey water treatment system, which is restricted to 3 stages of physical operations such as raw grey water collection unit, Screening & sedimentation, first filtration unit of sand and gravel, second dual filtration unit with filter medium as Cole, Guava stem and Amle stem and storing tank for treated grey water were carried out. The removal efficiency of various solids in grey water was found out at each stage of filtration. Hence, this technology could be a good alternative to treat grey water in residential rural area.

Keywords: *Amle stem, Guava stem, Corr, Grey water, Filter media*

322.A REVIEW ON GEOPOLYMER CONCRETE

AKILANDESWARI J¹, ARAVINDHAN R², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Concrete is the primary source for the construction of almost all the structures around the world. Due to over usage of concrete for construction, the annual emission of greenhouse gases into the environment is around 3-7%. In order to reduce the usage of cement in construction, an alternative material called Geopolymer concrete has been evolved. It is a zero cement concrete. Its use has started to progress in the construction field. In this review paper, various research papers that analyses the strength characteristics of the geopolymer concrete and its applications has been considered for the study. The main objective of this review paper is to come up with a new era in construction field that uses zero cement for construction and to eliminate pollution created by cement industries. Also the scope of this project is extended to identify a new material to completely replace fly ash in geopolymer concrete that can give up a much better properties when compared to fly ash.

Keywords: *Geopolymer, Environmental pollution, Zero cement concrete.*

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Indra Ganesan College of Engineering
IG Valley, Madurai Main R. . .
Mandhondam, Trichy-620 012

323. ASSESSMENT OF HYDROGEOCHEMISTRY AND EVALUATION OF GROUNDWATER QUALITY FEASIBILITY ZONES IN BHAVANI TALUK, TAMILNADU, INDIA

CHITHRA BHARATHY M¹, JEEVITHAM M², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Groundwater is the prime source for domestic purposes in the area of Bhavani Taluk, Erode District, Tamilnadu, India. Erode district is one of the agricultural dominant district of Tamilnada located in northern part of the state. Water samples were collected from the dug well and bore well during pre-monsoon and post monsoon seasons to assess the groundwater quality for its suitability for drinking and irrigation purposes using geo-chemical process. A total of 46 samples were collected from different locations of the study area and the water samples were examined for the major cations, anions, pH, Electrical Conductivity (EC) and Total Dissolved Solids (TDS). Parameters like Sodium Adsorption ratio (SAR), % of Sodium, were also calculated based on the chemical data to know the suitability of the water for irrigation purposes. The major hydro geochemical facies were identified by using the piper trilinear diagram. Comparison of groundwater quality in relation to WHO (1994) drinking water standards shows that most of the water samples were fit for drinking. The spatial distribution for the various physical and chemical parameters also plotted with the help of ArcGIS.

Keywords: ArcGIS; Geo-Chemistry; Groundwater Quality; Piper trilinear, WHO Standards.

324. FIBER REINFORCED GEOPOLYMER CONCRETE WITH REPLACEMENT OF COARSE AGGREGATE BY WASTE PAVER BLOCKS

KAVIYA K¹, KEERTHIKROSHAN P², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Global warming and climate change are increasingly important issues, with many governments looking at different ways to reduce greenhouse gas emissions. Portland cement manufacturing contributes significantly to greenhouse gas emissions with total emissions due to cement production estimated to be about 1.35 billion tons annually. Cement production results in approximately 0.8-2 tonne of carbon dioxide per tonne of cement, equating to approximately 5 percent of global total greenhouse emissions. As an alternate to ordinary portland cement a new type of concrete called Geopolymer Concrete is used for this research purpose which contains zero quantity of portland cement. Geopolymer Concrete is a new class of concrete based on an inorganic aluminosilicate binder system compared to the hydrated calcium silicate binder system of concrete. Geopolymer concrete can also be called as green concrete since it contains no cement which is the main cause of carbon dioxide emission. It possesses the advantages of rapid strength gain, elimination of water curing, good mechanical and durability properties and are eco-friendly and sustainable. In this paper geopolymer concrete made up of Fly ash and ground granulated blast furnace slag (GGBS) used as cementitious material. The alkaline liquids used in this study for the geopolymerization are sodium hydroxide (NaOH) and sodium silicate (Na₂SiO₃). The alkaline liquids helps these cementitious particle and aggregates to bind and produce the concrete. The objective of this research is to determine the strength characteristics for polypropylene fiber reinforced geo-polymer concrete containing 50% Flyash and 50% GGBS, and to find the optimum percentage of waste paver block as coarse aggregate in geopolymer concrete. *Keywords: Geopolymer concrete, Flyash, GGBS, Sodium Hydroxide, Sodium Silicate.*

Keywords: Diffusion, Hoisting, Performance analysis, Productivity, Lead time


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

325. ENERGY RECOVERY FROM FOOD AND GARBAGE WASTE

LIBIA POJATHSIYU C¹, MAGESHWARAN M², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The total amount of food waste is continuously rising due the increase in population growth, industrial development and hospital etc. Consequently there are millions of tons of food waste being produced every year which have to be safely disposed without any negative impact to the environment and health risk. Environmental perspective production of biogas is a better way to treat food waste. On the other hand, one of the driving force for economic and social development is the availability of energy in sufficient and sustainable amount which has been becoming world's main interest. So more anaerobic digestion treatments for food waste have been carried out. Through this treatment we can reduce the amount of solid waste generation. In this research paper, pilot scale model is used to extract biogas from solid wastes such as food waste, leaves waste, garbage waste. The combinations of these wastes have been experimented on different proportions. The results have been noted on 5th, 10th and 15th day of anaerobic treatment. Generation of methane gas through anaerobic bio gas plant is an appropriate solution for food waste management. The extracted biogas can be used as fuel in engines and cooking gas.

Keywords: Anaerobic digestion, Biogas, Solid waste and Fowl waste.

326. NUMERICAL SIMULATION OF ATMOSPHERIC BOUNDARY LAYER FLOW: UNCERTAINTY ANALYSIS

RANJITH M¹, RANJITHKUMAR A², Mrs.S.Poongkodi³

¹Assistant Professor, ²U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Simulating Atmospheric Boundary Layer (ABL) flow is essential for studying real world phenomenon like flow around urban bodies, estimating wind load on structures and dispersion and deposition of pollutants in atmosphere. When simulating an ABL flow, there has to be a consistency between flow model, source and boundary conditions. This results in undesired velocity decay, undesired velocity gradients and turbulence in the domain. The above issues may lead to the discrepancies in identical simulations generated with different commercial CFD codes. The above discrepancies may be resolved by suitable combinations of flow model, source and boundary conditions. In this research, it is proposed to develop CFD model to suggest the suitable combinations in comparison with the reported experimental solutions. A best combination will be also evaluated based on conventional logarithmic law and computation time.

Keywords: Health-Care, Geo-Fencing, Cloud Computing, Electronic Health Record

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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 022

327. TREATMENT OF DOMESTIC WASTE WATER BY USING DEWATS

SHARREN BANU M R¹, SHOBANA K², Ms.J.Revathy³

³Assistant Professor, ^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Now a days the population is increasing day by day and usage of water also increases and it leads to water scarcity also it leads to social problem. So the water should be treated for reuse. The technology that we are going to implement for the treatment of waste water is DEWATS (Decentralized waste water treatment system). DEWATS is a sustainable treatment at local level. The main mission is to make eco-efficient, non-mechanized, easy to operate and maintain, low engineering intensive. It is a technology which promotes principles of conservation of natural resources for conservation of environment. It is achieved by using principles combined with biological activities of micro-organisms. The water is allowed to fall in the collection tank followed by settling tank and then it is passed through a series of aerobic baffled reactors where particles of larger size stay retained. The organic loading rate is 10 to 30 g BOD/m³ per day. Now water in the reactor reacts with activated carbon and finally it is allowed to pass through the roots of CANNA (kalvalai) plant which provides oxygen to the treated water. The treatment efficiency in that case varies from 50 to 70% in BOD only. The treated water can be further used for irrigation purposes.

Keywords: *Settling tank, Baffled, Activated carbon, Anaerobic, Eco-efficient.*

328.A COMPARITIVE STUDY ON USE OF SUPERPLASTICIZERS IN DIFFERENT FORMSON THE MECLANICAL PROPERTIES OF CONCRETE

SIVARANJANI P¹, SOWMIYA P², Ms.J.Revathy³

³Assistant Professor, ^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Superplasticizers, sometimes referred to as High Range Water Reducers are employed to reduce the water content of concrete, enhance its workability and to increase the compressive and tensile strength of concrete. Superplasticizers are available in solid (powder) and liquid forms. In this comparative study, an attempt has been made to investigate the influence of Superplasticizers when it is used in solid and liquid forms. The Sikament NH liquid admixture and the Sikament HE200 powdered admixtures, both conforming to 9103-1999 were used for preparation of concrete. In addition, water used for concreting was added with the superplasticizers in permissible quantity and the properties of concrete prepared with such water were also investigated. The results of the study based on weighted index analysis suggest that concrete prepared using liquid Superplasticizers exhibit better properties. However the concrete prepared using groundwater and treated effluent mixed with permissible quantities of Superplasticizers has better properties than concrete prepared without admixtures. It can be inferred that the addition of Superplasticizers in permissible quantities to the water used for mixing and curing of concrete provides quantifiable desired changes in the mechanical properties of concrete.

Keywords: *admixtures, superplasticizers, liquid, solid, water, water content, compressive strength, tensile strength, workability.*



PRINCIPAL

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Masilankandam, Trichy-620 012

329. DESIGNING OF GREY WATER HARVESTING

SURYA A , SWETHA S , Ms.J.Revathy

³AssistantProfessor, ^{1,2}U.GStudent Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

India is facing a water crisis and by 2020 it is estimated that India's population will be suffering from severe water scarcity. Only 4% of the world's water resources supports over 15% of world's population. Nearly 80%percentage of water used by each person is discharged as grey water. With increased population growth and development, there is a need to critically look at alternative approaches to ensure water availability. This can be achieved by grey water harvesting. Our project provides a scalable, decentralized, and economically viable means toharvest the grey water. The project aims at treatment of grey water at each and every household instead of a centralized treatment. This way the reclaimed waste water can be effectively used for flushing and gardening in the same household.

The treatment process includes primary filtration through gravel, coir pith and sand. Large particles in the water are removed by filtration media. Then water passed through the powdered sea shells and activated charcoal as secondary treatment. The secondary treatment eliminates about 30% of hardness by Base Exchange reaction with the powdered seashells and also changed the pH value 8. Most of the organisms can't occur in basic conditions. The TDS level is 1064 mg per liter and the BOD level of water is 38 mg per liter. The treated water meets the irrigation standards. Treated water can be used for toilet flushing, gardening. The water from kitchens is not taken because it has to be treated heavily due to presence of grease and oil. Our prototype implementation on large scale will reduce the stress in critically strained water resources like ground water and other fresh water sources. The delivery model will be a modular one with ways to effectively maintain the system.

Keywords:Secondary treatment, BOD level, Base Exchange reaction and Proto type.

330. OMPARATIVE STUDY ON CORRUGATED WEB AND NORMAL-SECTION STEEL BEAM

TAMIL SELVI T¹, VIJAYAKUMAR M², Ms.J.Revathy³

AssistantProfessor, ^{1,2}U.GStudent Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

A corrugated web beam is a built-up beam with thin walled corrugated web. The profiling of the web avoids the failure of the beam due to loss of stability before the plastic limit loading of the web is reached. The use of corrugated webs is a potential method to achieve adequate out of plane stiffness and bending resistance without using stiffeners. There are many parameters that influence the behavior of the steel section such as thickness of web, depth of web and shape of corrugation in corrugated on web in steel beam. There are many study will be taken under hexagonal corrugation. This paper deals with the triangular corrugated web profile which have higher resistance to bending. ANSYS software is used for the comparative study of corrugated web and normal I-section steel beam

Keywords:Hat rolled steel beam, corrugated web, Web Buckling, Stiffness, ANSYS.

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Indra Ganesan College of Engineering
15 Valley, Madurai Main Road
Manikandam, Trichy-620 012

331. COMPARATIVE STUDY OF VIBRATIONAL ANALYSIS FOR TWIN BRIDGES

ARUNACHALAM.C¹, ARUN KUMAR.G², Ms.J.Revathy³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The bridge is a structure providing passage over an obstacle, in the means of transport such as road, railway. An analytical modal analysis has been carried out on the bridges. To develop a bridge model for long span bridge which may be truss bridge, suspension bridge, cable-stayed bridge. A cable-stayed bridge has one or more tower (or pylons), from which cables support the bridge deck. Its main span 670m is the longest span cable-stayed bridge. Cable-stayed bridge consists of two towers and two piers. This study is aimed to understand the dynamic characteristics like natural frequency and mode shapes of twin bridges. ANSYS software is used as tool for the vibrational analysis.

Keywords: Twin bridges, Vibrational analysis, ANSYS

332. SHOCK WAVE APPLICATION ON CONCRETE USING M-SAND TO INCREASE THE STRENGTH AND SUSTAINABILITY

BALAMUTHU.C¹, BHARATHIPRIYA.R², Ms.J.Revathy³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The natural river sand was the cheapest resource of sand. However the excessive mining of river bed to meet the increasing demand for sand in construction industry has led to the ecological imbalance in the country. Now the sand available in the river bed is very coarse and contains very high percentage of silt and clay. The silt and clay present in the sand reduce the strength of the concrete and holds dampness. A few alternatives have come up for the industry to bank on of which manufactured sand or M-sand, as it is called, is found to be the most suitable one to replace river sand. M-sand has caught the attention of the construction industry and environmentalists alike for its quality and the minimum damages it causes to nature. Usage of M-Sand can drastically reduce the cost since like river sand, it does not contain impurities and wastages is nil since it is made with modern technology and machinery. Once the M-sand becomes more popular in the construction industry, the demand for river sand and illegal sand mining would come down. Compared to the river sand, the M-sand has a better quality consistency high strength concrete with significance saving instrument. M-sand that is available is graded, sieved and washed. The particles are more rounded and granular and do not have sharp edges. Usage of M- Sand can overcome the defects occurring in concrete such as honey combing, segregation, voids, capillary, etc. The purpose of this research is to experimentally investigate the effect of Shock wave on concrete using M-Sand to increase the strength and sustainability of concrete. By the application of shock waves on concrete using M-Sand the strength can be increased up to 20-22 percentage compared to the concrete without shock waves and thereby sustainability also increased.

Keywords: Shock wave, Concrete, M-Sand, Compressive Strength, Flexural Strength



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Indra Ganesan College of Engineering

16 Valley, Madurai Main Road

Madurankani, Trichy-620 012

333. MICROBIAL FUEL CELL (MFC) TECHNOLOGY FOR ENERGY PRODUCTION FROM DAIRY WASTEWATER

CHELLAMMALM¹, CHINDRALLA V², Ms.J.Revalthy³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In developing countries the treatment of domestic, industrial wastewater and the sustainable energy production are given top priority with respect to environmental protection and energy conservation. At present renewable energy will have an important role as a resource of energy and obviously the Microbial Fuel Cells (MFCs) represent a new form of renewable energy, which converts bio degradable organic matter into electricity with the help of bacteria present in the wastewater. In the present study an attempt has been made to produce energy using Microbial Fuel Cells (MFCs - 16 Nos connected in series), while treating the highly complex dairy wastewater in a Down Flow Anaerobic Hybrid Reactor (DFAHR). The Down Flow Anaerobic Hybrid Reactor (DFAHR) is one of the high rate anaerobic reactors, which has been developed with an objective of utilizing the benefits two popular reactors namely Anaerobic Sludge Blanket Reactor (ASBR - Anaerobic suspended growth process) and Anaerobic Filter Reactors (AFR - Anaerobic attached growth process) in one single reactor. It is the type reactor, in which the bottom zone is provided with sludge blanket and the upper zone is provided with filter bed having floating supports (lined media) to the tune of 50-70% of the reactor volume. The dairy waste water samples were collected from the nearby Aavin dairy industry located in Coimbatore and were analyzed for its physical, chemical and biological characteristics as per Standard Methods. During the experimental study to treat the dairy industrial wastewater in DFAHR along with MFCs, it was found that 0.7 - 1.1 V per fuel cell power has been successfully generated which is sufficient to light a 12 V bulb. In this process the dairy wastewater also treated to the expected level (around 80% COD reduction) which was confirmed by the COD. The experimental investigating of the present study revealed that it is a very cost effective and an alternative source of energy which will be adopted for the future as one of the means of renewable energy.

Keywords: Microbial Fuel Cells, Down Flow Anaerobic Hybrid Reactor, Dairy wastewater, COD, Energy production.

334. REVIEW ON DURABILITY STUDY OF CONSTRUCTION MATERIALS AND TECHNIQUES OF NAGARATHAR

DHANISHKAR¹, DHANUSUYA T², Ms.A.Savariyama Carolin A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The purpose of this paper is to review the durability of structures constructed using ancient techniques and modern techniques. The ancient construction techniques involve high durability of structure whereas in modern construction technique the durability of structure speaks less. Chettinad construction technique, a standing example for its durability was studied. The lime mortar and type of plastering carried out was the main reason for its durability. This study deals with the plastering technique involved in the ancient Chettinad construction.

Keywords: Lime, Kadukkal, Jaggery, Chettinad Construction



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Indra Ganesan College of Engineering

KG Valley, Madurai Main Road

Manikandan, Trichy-620 012

335. REVIEW ON HIGH VOLUME REPLACEMENT OF MINERAL ADMIXTURES IN CONCRETE

ELAKKIYAS¹, GOMATHIM², Ms.A.Savariyamal Carolin A³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Today the cost of construction is soaring at an exponential rate with the use of materials like cement, fine aggregate, coarse aggregate. Cement production requires high energy input and also it is generating greenhouse gases. Carbon dioxide is released by cement manufacturing both indirectly (emission of energy) and directly (heating of calcium carbonate). Manufacturing of cement causes emission of the most common greenhouse gas i.e. carbon dioxide, from 5% in cement structures to 3% in case of cement roads. The cement factories produce upto 5% of global artificial emission. Also, the prices of cement are increasing day by day. The main objective of the concrete industry today is to meet up with the rising demands to perform at its level best to maintain the ecological balance. The excessive emission of greenhouse gases inhibits the sustainable growth of the environment. It has a greater impact on the climate and society. These are the major reasons that the use of high volume replacement of mineral admixtures in cement has gained popularity. Mineral admixtures may be categorized into two groups, namely, chemically active mineral admixtures (Silica Fume and Metakaolin) and micro filler mineral admixtures (Fly ash, Ground Granulated Blast Furnace Slag and Rice Husk Ash). Replacement of cement in concrete by various mineral admixtures leads to substantial environmental benefits. This study emphasizes on the usage of high volume replacement of mineral admixtures in cement.

Keywords: cement, Mineral Admixtures, Silica Fume, Metakaolin, Fly Ash, Ground Granulated Blast Furnace Slag, High volume Replacement.

336.A REVIEW ON 3D PRINTING CONCRETE

GOPALAKRISHNANA¹, GOPALAKRISHNANA², Ms.A.Savariyamal Carolin A³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

3D printing concrete is an emerging technology in which structures are made only using concrete in layers with the help of software. With this technology, even geometrically intricate structures, heavy load bearing structures and hydraulic structures can be made easily in no time with less wastage of materials and minimum costs. It does not require any additional form-work during construction and also the human resource required is comparatively less. It is a sustainable technology which can also be used for aesthetic purpose. This technology was invented by Charles Hull in 1984. This review paper is about the methods of using 3D printer in the construction field and its future trends.

Keywords: 3D printing concrete, formwork, sustainable technology.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

337. EXPERIMENTAL INVESTIGATION ON REUSE OF WATER HYACINTH IN MANUFACTURE OF SEWER BRICKS

JESSIE JENIFER.E¹, JOTHIKAR² Ms.A.Savariyama Carolin A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Sewer Bricks are intended for the lining of roofs, walls, and floors of sewers used for domestic sewage. Sewer Bricks are differentiated from normal bricks and their specifications are laid out in IS: 4885-1988. Water Hyacinth is available abundantly in the lakes of Coimbatore and ultimately ends up as solid waste in landfill. While various options are available for reuse of water hyacinth, the possibility of reuse of water hyacinth as a substitution material for making sewer bricks was experimented. Based on experimental investigations concerning compressive strength, water absorption and efflorescence of brick as per IS code, the following observations are made regarding the resistance of partially replaced water hyacinth ash.

(a) When water hyacinth ash is substituted up to 60% of fly ash, it is able to achieve the minimum compressive strength as per IS code. When water hyacinth ash is substituted up to 50% it has more or equal compressive strength compared to fly ash bricks.

(b) The water absorption stipulations of the brick are met when water hyacinth ash is substituted up to 50% of fly ash.

(c) The efflorescence remains slight for 100% replacement of fly ash and there was not a single instance of warpage in any of the tested samples.

The study establishes through evidence that water hyacinth can be substituted up to 50% of fly ash in making of sewer bricks. The study also vouches for the use of non-clay bricks as sewer bricks.

Keywords: hyacinth, sewer bricks, fly ash, efflorescence.

338. STUDY ON IMPACT OF STEEL SLAG IN FLEXURAL BEHAVIOUR OF RC BEAMS

JULIANA MARY.S¹, KARPAGAM.S², Ms.A.Savariyama Carolin A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The infrastructure was rapidly developed, due to that the production of concrete requirement increased globally. The raw materials availability get shortage and cost also increased. From various industries and construction sites are produced byproducts and waste materials, the disposal of this materials are create huge problem. The proper method of utilization of waste materials from industries should be find and also find alternate source for raw materials for the infrastructural development. An industrial by product obtained from the steel manufacturing industry is steel slag and by-product from cement manufacturing process is ecosand. Steel slag and Ecosand are replacing some natural aggregates it leads to some environmental benefits. Hence this study attempt to replace coarse and fine aggregate by steel slag and Ecosand in concrete and study the flexural behavior of RC beams. The optimum value of replacement of Steel Slag and ecosand as coarse and fine aggregate was defined by compressive strength tests and optimum level of Ecosand will be find by various replacement levels of steel slag and find the best combination (60% steel slag and 30% Ecosand), and to conduct flexural strength test, split tensile strength test, water absorption test at 28 days, various specimens are made. That best combination was used to test the flexural behavior of RC beams. The study indicates encouraging results in all aspects.

Keywords: Concrete, Flexural behavior, RC beam, Replacement, coarse aggregate, fine aggregate, steel slag, ecosand.



PRINCIPAL

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Madurai, Tamil Nadu, India - 625 011

339. COMPARITIVE STUDY ON THE MECHANICAL PROPERTIES OF CONCRETE CONTAINING 3D AND 4D STEEL FIBRES

KARUNANIDHIL¹, KUMARESAN.G², Ms.A.Savariyama Carolin A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Concrete is one of the most extensively used building material in the construction industry. Even though a concrete is used as a strong core construction material, it also has some deficiencies like brittleness, poor tensile and impact strength, fatigue, low ductility and energy absorption. To overcome these deficiencies fibres are added to the concrete. In this paper effect of 3D and 4D steel fibres on the mechanical properties of M30 grade of concrete have been studied by varying the percentage of fibres in concrete. Fibre content varied by 0.25%, 0.50%, 0.75%, and 1% by volume of concrete. Slump cone test was adopted to measure the workability of concrete. The Slump cone test results revealed that workability gets reduced with the increase in fibre content. Also, it has been observed that with the increase in fibre content increases the strength of concrete.

Keywords: Concrete, compressive strength, split tensile strength, steel fibre.

340. FRUIT CANNING INDUSTRIAL WASTEWATER TREATMENT - STUDY ON INFLUENCE OF ORGANIC LOADING RATE AND BIOMASS QUANTIFICATION FOR THE EFFECTIVE PERFORMANCE OF ANAEROBIC HYBRID REACTOR (AHR)

MANVEL.M¹, MURUGAN.M², Ms.A.Savariyama Carolin A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In the present study an attempt has been made to treat the fruit canning industry wastewater using a lab scale Anaerobic Hybrid Reactor (AHR) of 4 liters capacity with 41 numbers of inert media (60% of reactor volume and height and diameter 20mm and Specific Surface Area of 388m²/m³) fill inside the reactor. The reactor was started with a low OLR of 1 g of COD / L.d with Hydraulic Retention Time of 5.37 days and operated for more than 150 days with fruit canning wastewater as substrate. At the end of the experimental study (165 days) it was found that the AHR treating the fruit canning industrial waste water had reached the OLR of 13.17 gCOD/L.d with HRT of 0.47 days with the threshold of 80% COD_s removal efficiency. In order to predict the effluent substrate concentration of the reactor, Grau second order and Modified Stover-Kincannon mathematical models were used and found that these two equations could be conveniently used for the design of large scale AHRs treating fruit canning industrial wastewater.

Keywords: Anaerobic Hybrid Reactor (AHR), fruit canning industry wastewater, Kinetic Coefficients, Organic Loading Rate (OLR), Biomass


PRINCIPAL

Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Marikandan, Trichy-620 012

341. COMPREHENSIVE REVIEW OF A FLOATING CONCRETE

MUTHU KRISHNAN.V¹, NEELAMBARIL², Ms.A.Savariyama Carolin A.³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

This project mainly deals the concrete to float in water by using the combination of light weight aggregate and Air entraining agent of Aluminium powder. The main idea of our project is that the light weight aggregate in the concrete lowers the concrete's self-weight, so that concrete's density also reduces. Hence its density is less than 1000kg/m³, the concrete floats in water. For making this type of light weight concrete, we don't know the proportion to be mixed in concrete, So that we have adopted the trial and error method to solve this problem. The density of concrete comes under the limit of 500 to 900 kg/m³. The proper mix design of the floating concrete is not arrived, so we have taken the mix ratio from the help of Journals. We have used various materials like Fly-ash, gypsum, Lime powder, Pumice stone, Aluminium powder, Polypropylene, GGBS, Vermiculite, Sand, Cement etc. we have successfully achieved the floating property of the concrete from the combination of below ingredients Cement, Lime powder, Gypsum, Fly-ash, Aluminium powder, Polypropylene, Sand. We have partially replacing the cement by Fly-ash (45%), Lime(17%), Gypsum (6%), and the fine aggregate of the sand is replaced by 30% of polypropylene. We have added air entraining agent of Aluminium powder by 2-10%. Finally the floating property and the compressive strength of the concrete are tested.

Keywords: Floating Concrete, Polypropylene, Aluminium Powder, Pumice Stone, Density, Fly Ash, Floating Property, Compressive Strength, GGBS, Gypsum.

342. STRUCTURAL BEHAVIOUR OF RC COLUMNS CONFINED USING COLD FORM STEEL UNDER AXIAL COMPRESSION

PRAVEEN KUMAR.T¹, PUSHPANJALI.B², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The structural performance of axially loaded concrete in filled steel composite columns is investigated in this study. The columns investigated are different in cross-sectional dimensions. The axial load is provided to the core concrete alone and the behaviour of the confined cold form steel is studied. The axial loads of reinforced concrete column and confined column are compared. The main scope of the project is to study the efficiency of concrete in filled steel hollow sections with bolted connection. The ratio of height and breadth of the specimens are kept constant as 6.25. The width to depth ratio is assumed to be taken as 1.00, 1.25, 1.50, 1.75 and 2.00. M20 grade of concrete is used.

Keywords: Cold formed steel, Hss section, In-filled, Columns, Axial load.

343. REVIEW ON 3D PRINTING OF CONCRETE

RAJALAKSHMI.P¹, RAJESHWARI.R², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

3D printing is an innovative construction technique to meet the future needs without compromising the ability of the present. Three-dimensional (3D) printing (also known as additive manufacturing) is an advanced manufacturing process that can produce complex shape geometries automatically from a 3D computer-aided design model without any tooling, dies and fixtures. This automated manufacturing process has been applied to many diverse fields of industries today due to significant advantages of creating functional prototypes in reasonable build time with less human intervention and minimum material wastage. However, building strategies while reducing the need for human resources, high capital investments and additional formworks. Research interest in employing 3D printing for building and construction has increased exponentially in the past few years. This paper reviews the latest techniques in 3D printing of concrete.

Keywords: Digital construction, automation, building construction


PRINCIPAL

Indra Ganesan College of Engineering
TG Valley, Madurai Main Road,
M. G. Road, Trichy 620 020

344. EXPERIMENTAL INVESTIGATION OF CLAY BRICKS

RAMYAP¹, RANJITHA A², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Brick is one of the most demanding masonry units. It has the widest range of products, with its unlimited assortment of patterns, textures and colors. From decades burnt clay bricks have been used in the building construction and it helps to reduce the energy consumption of buildings due to its excellent thermal insulation property. As a result of this, there is still an existing demand for clay bricks and huge quantity of soil is being exploited for its production. This study focuses on the investigation of properties of clay brick in which the clay soils are obtained from M-sand manufacturing unit. The clay bricks in this investigation are produced by the various percentage replacement of the clay with Cement and M-Sand. The percentage of clay used in production is kept constant at say 60% and cement and M-sand are varied in percentages of 10%, 20%, 30% of cement with 10%, 20%, 10% of m-sand respectively. In this paper properties such as compressive strength and water absorption test of modified clay bricks are determined.

Keywords: Clay, Cement, M-Sand, Clay brick, Strength.

345. EXPERIMENTAL ANALYSIS OF FLY ASH BRICKS

MANIVEL M¹, MURUGAN N², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Fly ash is a by-product obtained from the thermal power plants. It contains siliceous and aluminous substance, when it is combined with water it forms cement. Most of the cement manufacturing factories use fly ash as a pozzolanic material. It thus used to manufacture bricks as an alternate product for clay burnt bricks. In this project the experimental analysis and testing of the hardened fly Ash brick is taken from a manufacturing unit located nearby Coimbatore. The brick is manufactured with various mineral products such as Gypsum, lime, Crusher powder are used. The proportion used in manufacturing, various tests such as Dimensional tests, Water absorption test, compressive strength are also done as per IS norms.

Keywords: Fly ash, Gypsum, Burnt brick, Water absorption test.

346. INTERLINKING OF RIVERS - METTUR DAM TO VEERAKKALLAKE

MUTHU KRISHNAN V¹, NEELAMBARI L², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The interlinking of rivers involving inter basin water transfer has canals, tunnels or water lifts, for water to flow from one river basin to another and making use of excess water. Tamilnadu is one of the few states in India endowed with reasonable land and water resources by Cauvery river. Farmers are facing drought due to lack of canals. Enormous amount of surplus water (200 TMC in June 2018) is wasted in Bay of Bengal. To overcome this problem we designing an canal and Route map. At the backdrop of this, the present paper is an attempt to study issues and challenges in interlinking of rivers in India from the point of view of society at large.

Keywords: Cold-formed steel, Hat section, In-filled, Columns, Axial load



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Indra Ganesan College of Engineering
65 Valley, Madurai Main R.
Manikandan, Trichy-620 012

347. REVIEW ON RETROFICATION OF POTHOLES USING RECYCLED MATERIALS

PRAYEEN KUMAR.T¹, PUSHPANJALI.B², Ms.G.Mahalakshmi³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Over recent years, severe abrupt weather conditions has caused significant damage to local highway networks. This has manifested itself in a significant increase in the number of potholes. The local highway network has evolved over a very long period of time and therefore much of it was not designed or constructed to the standards that would be expected of a newly constructed highway today. As a consequence, many local highways are less resilient to changing environments and adapt poorly to severe weather events. The major contributors to the formation of potholes include the ingress of water, winter freeze-thaw cycles and inadequate drainage. Potholes are one of the public's main local concerns, as they are highly visible defects. Public opinion surveys consistently show that the repair of roads, footways and cycle ways is very important to highway users and local communities. Such surveys have demonstrated the importance of highway condition and many perceive that the quality of local roads may be deteriorating, with potholes being one of the main causes. This review paper is about retrofication of potholes using recycled materials in bitumen.

Keywords: Potholes, Recycled Materials, Bitumen, Flexible Pavement.

348. COMPARISON OF KINETIC COEFFICIENTS FOR TREATING INDUSTRIAL WASTEWATER USING ANAEROBIC HYBRID REACTOR(AHR)

RAJALAKSHMI.P¹, RAJESHWARI.R², Mrs. Nusrath Sulthana S³

Assistant Professor,^{1,2}U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Anaerobic Hybrid Reactor (AHR) is one of the most commonly used high rate reactors for treating the domestic and industrial wastewater which offers the advantages of Up flow Anaerobic Sludge Blanket Reactor (UASBR) and Up flow Anaerobic Filter Reactor (UAFR) in a single reactor. In the present study an attempt has been made for the determination of kinetic constants of the AHR, by conducting experimental studies using laboratory scale Anaerobic Hybrid Reactors (AHRs). Five different mathematical models were compared for the design Anaerobic Hybrid Reactors (AHRs).

Keywords: Anaerobic Hybrid Reactor (AHR), Kinetic Constants, Inert Media, Organic Loading Rate (OLR)



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Indra Ganesan College of Engg
IS Valley, Madurai Main
Manikandan, Trichy-621

349. FLEXURAL BEHAVIOUR OF RC BEAMS WITH RECYCLED AGGREGATES

RAMYA.P¹, RAMITHA.A², Mrs. Nusarh Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The continuous raw material demand was increased in concrete productions which requires good quality and cost efficient alternative materials like Recycled Course Aggregate, Manufacturing Sand and Glass Aggregate replacement. This paper reports the behaviour of concrete using Glass aggregate as Fine Aggregate and Recycled aggregate as Course Aggregate replacement in concrete up to 15% and 30% respectively. In this project work, the concrete grade M25 was selected and IS method was used for mix design. The properties of Cement, Fine Aggregate (M-Sand), Course Aggregate, Glass Aggregate and Recycled Aggregate were investigated. The Beam Specimens were casted with and without C&D waste (Course Aggregate Replaced with Recycled Aggregate at 30% and Fine Aggregates replaced with Glass Aggregate at 15%). Vibration Analysis were made by using FFT analyser to determine acceleration characteristics. The work is focused on possible conservation of natural resources by substituting with waste material by suggesting a possible reuse option for C&D waste.

Keywords: Construction and Demolition Waste (C&D Waste), Recycled Aggregate, Glass Powder, Vibration Analysis.

350. COMPARITIVE STUDY ON STRUCTURAL BEHAVIOR OF CONCRETE ENCASED STEEL CASTELLATED BEAM FOR DIFFERENT SECTIONS

RENUKA.M¹ SADAM HUSEN.H², Mrs. Nusarh Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

This paper study about the analytical behaviour of Concrete beam encased with Steel castellated beam as composite member with various web opening section of the castellated beam as optimization of section by its maximum Load carrying capacity and deflection. The modelling and Finite Element Analysis was done using Ansys Workbench 16.2. The Concrete beam having section size of 150mm x 170 mm x 1500mm encased with Structural Steel ISMB100 of span 1400mm is used for castellated beam for various shape of web opening are provided. The parametric study has shown the Deflection and Load carrying capacity of the various cross sectional beams with Hexagonal opening (inscribed in the circle 25mm radius) which has high load carrying capacity and the less deflection while compared to the other sections of circular web opening (25mm radius), hexagonal wide web opening (25mm with 1:1:1 web ratio), and rectangular web opening of (25mm x 50mm). Alternate incremental loading is applied by using Ansys workbench 16.2 and results and graphs are plotted.

Keywords: Composite Beam, Castellated Beam, finite element analysis, web opening, circular web opening, hexagonal web opening, rectangular web opening, hexagonal wide web opening.



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Indra Ganesan College of Engin
10 Valley, Madurai Main Rd.
Munakandan, Trichy-620 01

351. AN EXPERIMENTAL STUDY ON THE EFFECT OF TREATED GREY WATER ON WORKABILITY AND STRENGTH OF PLAIN CONCRETE

SANGAVI.K¹, SATHISH.S², Mrs. Nusarh Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The water from the kitchens, bathrooms, showers, tubs, and washing machines are referred as the grey water. Even though the grey water looks dirty, the treated grey water can be made useful in several beneficial purposes like irrigation and laundry purposes. The aim of this experimental study is to use the treated grey water in concrete making and to analyse its effects on the workability and the strength of the concrete structures. The waste water samples were collected from the secondary treatment tank located in Kumaraguru College of Technology. The collected samples were analysed for various chemical parameters like pH, TSS, BOD, COD in the laboratory and tested for their suitability of use in concrete. The setting time of cement, workability, compressive strength have been tested for the potable water and the secondary treated grey water for M20 mix. The result from workability and compressive strength of concrete confirms that the use of treated grey water in concrete increases both the workability and compressive strength of the concrete compared with ordinary potable water. Since the treated grey water contains some organic matter in it, it is evident the decomposition of which causes the corrosion of steel reinforcement. Therefore it is suggested that the treated grey water can be used only for the plain concrete.

Keywords: Potable water, grey water, workability, compressive strength of concrete.

352. INNOVATIVE TECHNIQUE TO INTENSIFY STRENGTH AND SUSTAINABILITY OF CONCRETE BY SHOCK WAVE APPLICATION

SHOBANA.A¹, SADAM HUSEN.H², Mrs. Nusarh Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

A simple yet an efficient technique to increase the strength properties of the concrete is focused here. The major outcome of this paper is to enhance the sustainability along with the strength properties of the concrete. The shock waves are allowed to pass through the concrete and those specimens are tested for compressive strength at the age of 7 and 28 days in comparison with the standard control specimen. Thus, as a result of shockwave application, we shall expect the increase in strength properties of the concrete which will be more beneficial to the construction industries as well as the consumers. For the experimental study and investigation, M25 grade concrete is used which is also mostly utilized for various construction applications such as beams, columns, roof slabs etc. of residential and industrial structures. This strategy upgrades the performance of the concrete as a whole and such concrete can be implemented even in large-scale construction such as bridges, dams, roads, pavements and embankments.

Keywords: Shock Wave, Concrete, Sustainability



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Indra Ganesan College of Engineering

16 Valley, Madurai Main Road

Manikandam, Trichy-620 012

353. PROPERTIES OF CONCRETE WITH WASTE GLASS POWDER (GP) AS FINE AGGREGATE REPLACEMENT

SUBALAKSHMI¹, SUJITHA.J.C², Mrs. Nusrath Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In the present research, the feasibility of using waste glass as fine aggregate replacement in concrete was investigated, which is an interesting possibility for economy on waste disposal sites and conservation of natural resources. Glass, being non-biodegradable material, is not suitable for addition to landfill, and as such recycling opportunities need to be investigated. To deal with these problems, this study has been conducted through basic experimental research in order to investigate the feasibility of using crushed waste glass powder as fine aggregate replacement in concrete. An experimental work was performed to study the slump, unit weight, compressive strength, splitting tensile strength, flexural strength, modulus of elasticity, ultrasonic pulse velocity, dry density and chloride ion penetration test at different curing ages of 7, 14 and 28 days. Five concrete mixes with 0%, 5%, 15% and 20% replacement by weight of sand with waste glass were prepared. In this research, an experimental investigation was carried out to study the complete stress-strain behaviour, mechanical strength and durability properties of concrete with partial replacement of natural river sand by glass powder. Five different grades of concrete M20, M30, M40, M50 and M60 were designed for the present study. Concrete with different glass powder replacement percentages of 0%, 10%, 20%, 30%, 40% and 50% were tested to study their properties and to find the optimum % of replacement for sand. All the fresh concrete mixes were tested also for the workability properties by conducting slump cone tests. According to the test results, it is observed that the slump value of fresh concrete increase gradually with % of glass powder upto 40% replacements. The gradual increase in compressive strength, flexural strength and split tensile strength with the addition of waste glass powder upto 30% was observed. The addition of 40% and 50% replacements, the strength values of concrete are comparable with that of the control mix. The density and modulus of elasticity of concrete also gradually increases from 0% to 50% addition of glass powder in the concrete.

The Rapid Chloride Penetration Test (RCPT) test results show that the chloride penetration rate is considerably reduced with addition of glass powder and permeability properties of concrete is enhanced upto 50% replacement levels. Therefore 50% of glass powder can be used as the replacement material for fine aggregates without much compromise on the strength and durability properties and to achieve economic and environmental benefits.

354. NATURAL ZEOLITES IN GREY WATER TREATMENT

SUNDHAR R.K¹, SURYA.C², Mrs. Nusrath Sulthana S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Water is the inevitable source for all living things. Due to rapid development in industrialization and urbanization leads to contamination of surface water as well as groundwater which results in water scarcity. Thus grey water which is easily available can be considered as an alternate source of water. Grey water is the waste water generated from office buildings or household appliances like bathrooms, kitchens, washing machines, etc without fecal contamination. The usage of the soap solution in bathrooms, kitchen sink washing areas and detergents used in washing areas leads to the increasing carbonates and bicarbonates of calcium and magnesium ions in grey water. The present study deals with the treatment of grey water by boiling and zeolite process for the removal of hardness. Natural zeolites are environmentally and economically acceptable hydrated alumina-silicate materials for grey water and wastewater treatment. The treated water can be used for laundry purposes, toilet flushing and gardening thereby reducing the demand for fresh water.

Keywords: Natural Zeolite, Calcium and Magnesium ion, grey water.



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Indra Ganesan College of Engineering
13 Vellore, Madurai P.O.
Manikandan, T.N.

355. ANALYTICAL STUDY ON STIFFENED COLD FORMED STEEL CHANNEL SECTION

VIJAY BHARATH D¹ YOSIYA SAHAYARANI A², Mr. Rubas Albert Pitchai A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In this study, the cold-formed steel (CFS) compression members were studied to understand the buckling behavior of the sections under axial compression. The specimens were modelled to form a lipped channel section with an edge and intermediate stiffeners. From this different channel section with edge and various forms of intermediate stiffeners in flange and web were produced. Cold-formed steel sheets of thickness were 2mm, and 1.2mm was used in this study. To determine the nominal buckling load carried by the specimens and the buckling behavior, the finite element software package of ANSYS was used to perform the numerical analysis. The finite element analysis was performed on fixed supports of length 500mm and 1000mm. The numerical results obtained from the Finite Element Modeling (FEM) were compared with the theoretical analysis results calculated using Direct Strength Method (DSM) according to the North American Specification (NAS) for cold-formed steel section.

Keywords: Cold formed steel, stiffeners, buckling, local – distortional, Global buckling, lipped channels, direct strength method (DSM)

356. EFFECT OF SOIL STRUCTURE INTERACTION ON DYNAMIC BEHAVIOUR OF BUILDINGS

SAKTHIVEL P¹ Gauthar Fathima S², Mr. Rubas Albert Pitchai A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Soil Structure Interaction (SSI) is the response of soil which influences the motion of the structure or the motion of the structure which alters the response of soil during earthquake. Soil structure interaction is prominent for heavy structures, especially for high rise buildings located on soft soil. Incorporation of soil structure interaction effect will reduce the base shear and flexibility of soil. Because of this the stiffness of the building is getting reduced resulting, increase in the natural period of the structure during earthquake.

This study analyses the performance of the multi-storied buildings of ten (G+10) and twenty storey (G+20) with ground floor, located under fixed support and over raft foundation of varying depth 0.8 m, 1 m, and 1.2 m respectively. Area springs are included in the local 'z' axis to make the foundation flexible there by creating the effect of soil structure interaction. Response spectrum analysis is done using the software ETABS. The response of the building is analyzed in terms of fundamental natural period, lateral displacement, storey drift, lateral deflection and seismic base shear. This study shows that, the SSI will have an influence on dynamic behavior of the building needs to be considered in the design of earthquake resistant buildings.

Keywords: Soil structure interaction, flexibility, Area springs, raft foundation, lateral displacement, storey drift, lateral deflection, seismic base shear.


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Indra Ganesan College of Engineering
JG Valley, Madurai Main Road
Mankandam, Trichy-621 012

357. ANALYSIS AND DESIGN OF SHELL STRUCTURE RESISTING ON PILE FOUNDATION IN UNSTABLE SOIL CONDITION USING ETABS

AKASH J¹, MAHENDRAN M², Mr. Ruhas Albert Pitchai A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The software development block of G+7 has been considered to illustrate the analysis process. ETABS is the structural analysis tool used to carry out the analysis of the structure. The main aim is to design and analyse the multi-story structure with shell element which is located at unstable ground condition (i.e.) the soil possess very low bearing capacity. As per standard code suitable pile foundation is designed for unstable ground condition. The whole structure with shell element and pile foundation is analysed and the results are consolidated. The essential parameters like structure stiffness, displacement, drift, shear, overturning moment are observed and plotted in graphs.

Keywords: Shell element, pile cap, Overturning moment, ETABS

358. ENERGY ANALYSIS OF A GREEN BUILDING USING EQUEST SOFTWARE

MUSARAF ALI S¹, PRABHU J J² Mr. Ruhas Albert Pitchai A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In the present research, the feasibility of using waste glass as fine aggregate replacement in concrete was investigated, which is an interesting possibility for economy on waste disposal sites and conservation of natural resources. Glass, being non-biodegradable material, is not suitable for addition to landfill, and as such recycling opportunities need to be investigated. To deal with these problems, this study has been conducted through basic experimental research in order to investigate the feasibility of using crushed waste glass powder as fine aggregate replacement in concrete. An experimental work was performed to study the slump, unit weight, compressive strength, splitting tensile strength, flexural strength, modulus of elasticity, ultrasonic pulse velocity, dry density and chloride ion penetration test at different curing ages of 7, 14 and 28 days. Five concrete mixes with 0%, 5%, 15% and 20% replacement by weight of sand with waste glass were prepared. In this research, an experimental investigation was carried out to study the complete stress-strain behaviour, mechanical strength and durability properties of concrete with partial replacement of natural river sand by glass powder. Five different grades of concrete M20, M30, M40, M50 and M60 were designed for the present study. Concrete with different glass powder replacement percentages of 0%, 10%, 20%, 30%, 40% and 50% were tested to study their properties and to find the optimum % of replacement for sand. All the fresh concrete mixes were tested also for the workability properties by conducting slump cone tests. According to the test results, it is observed that the slump value of fresh concrete increase gradually with % of glass powder upto 40% replacements. The gradual increase in compressive strength, flexural strength and split tensile strength with the addition of waste glass powder upto 30% was observed. The addition of 40% and 50% replacements, the strength values of concrete are comparable with that of the control mix. The density and modulus of elasticity of concrete also gradually increases from 0% to 50% addition of glass powder in the concrete.

The Rapid Chloride Penetration Test (RCPT) test results show that the chloride penetration rate is considerably reduced with addition of glass powder and permeability properties of concrete is enhanced upto 50% replacement levels. Therefore 50% of glass powder can be used as the replacement material for fine aggregates without much compromise on the strength and durability properties and to achieve economic and environmental benefits.

Keywords: Quest, Energy analysis, HVAC Climatic factors, Simulation

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IG Valley, Madurai Main Road,
Manikandam, Trichy-620 012

359. PRODUCTION OF MEDIUM STRENGTH SELF COMPACTING CONCRETE USING SILICA FUME AND QUARRY DUST

Aishwarya M¹ Ajith Kumar R², Mr. Rubas Albert Pitchai A³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Self Compacting Concrete (SCC) is able to compact under its own mass in thin sections and in congested reinforced zones due to its high fluidity and cohesiveness. In order to produce an eco-friendly self compacting concrete with characteristic compressive strength of 40MPa, a fine industrial by-product silica fume is used as a partial substitute for cement by weight (5%, 7.5% and 10%) and in addition to that quarry dust is partially replaced for natural fine aggregate from 5 to 15% with an increment of 5%. To study the effect of silica fume and quarry dust in fresh and hardened properties of medium strength self compacting concrete, 10 different SCC mixes were designed using Japanese method. From the experimental study it was observed that the SCC mix containing 7.5% silica fume and 5% quarry dust exhibits the equivalent properties as that of SCC mix made with conventional materials and found to be optimum. Also, analytical expressions are proposed to predict the indirect tensile strength and flexural strength of SCC in terms of compressive strength and the results are compared with the existing code provisions.

Keywords: Eco-friendly, Self Compacting Concrete, Silica Fume, Quarry Dust, Fresh properties, Mechanical properties.

360. PERFORMANCE EVALUATION OF STEEL COMPOSITE COLUMN UNDER AXIAL LOADING

Aravindh Sany P¹ Arjun V², Mr. Rubas Albert Pitchai A³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

This paper shows that the Concrete-filled steel tubes (CFST) have been widely use in high rise buildings, bridges and onshore structures due to many advantages over conventional steel and reinforced concrete columns. Many structural engineers are using the concrete-filled steel tube columns due to its high load carrying capacity and convenience of designing column-beam connections, steel reinforced square concrete-filled steel hollow (SRSCFSS) columns. The Concrete-filled steel tubes have been increasingly employed in the structural engineering. The steel-concrete composite column is a new composite member that can be used for construction and economy by filling the empty space in the steel H-flange with concrete. The study is used to know the monotonic behaviour of concrete filled steel tubes (CFST) and concrete filled steel plates under axial load. It has been proven in another study on the axial capacity of a steel-concrete composite column with a non-compact section has excellent structural strength. In this paper the effect of steel tube section, the bond between the concrete and the steel tube and the confinement of concrete are examined. Column strengths are compared with the values predicted by Indian codes, with different D/L ratios. The calculation of the axial strength using other codes provides an excellent results. Concrete filled steel tubular (CFST) sections have advantages such as higher axial load capacity, better ductility performance, larger energy absorption capacity, lower strength degradation. The composite columns are good fire resistant and significant economic advantages.

Keywords: Finite Element Analysis, CFST Columns, SRSCFSS, Mechanical behaviour, Axiar workbench 14.3, Concrete filled steel tube.


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Indra Ganesan College of Engineering
18 Valley, Madurai Main Road
Mankandam, Trichy-620 012

361. EXPERIMENTAL INVESTIGATION ON INCONEL ALLOY AND AUSTENITIC STAINLESS STEEL DISSIMILAR JOINTS BY COLD METAL TRANSFER (CMT) ARC WELDING PROCESS

Dharshini A¹, Dinesh Kumar K², Mr. Rubas Albert Pitchai A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Joining of Inconel alloy and stainless steel dissimilar metal combination has a specific interest in the nuclear industry, petrochemical industries. Due to the metallurgical incompatibility, it has been very difficult to produce reliable joints between these metals due to the formation of hard intermetallic compounds. The metallurgical incompatibility between both materials is enhanced by the time-temperature profile of the welding process used. The present experimental investigation uses the low thermal heat input process cold metal transfer (CMT) arc welding, which compared with conventional welding, to deposit a inter layer between Inconel alloy and stainless steel. The welds were produced between Inconel alloy and Austenitic stainless steel using a filler metal welding wire. The joints produced revealed two inter Metallic layers located near the parent metals and weld interfaces. Tensile tests are to be carried out to obtain the maximum tensile strength using Response Surface Methodology (RSM). The structural properties and relationships on this dissimilar weldment are to be evaluated using the combined techniques of optical microscopy and SEM-EDAX techniques

Keywords: Cold metal transfer (CMT) Welding, Dissimilar joints, Metal inert gas (MIG), Metal active gas (MAG)

362.A REVIEW ON THE MACHINING CHARACTERISTICS OF MAGNESIUM ALLOY

Gowtham K¹ Hariharan N², Mr. Samuel M³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Magnesium based metal matrix composites gains more important in automotive industries and biomedical industry due to its light weight and its corrosion resistance. In recent days magnesium alloys were reportedly used as bone replacement for its light density, where Magnesium alloy density is 33% lighter than Aluminium and 60% lighter than Titanium. Though it has superior mechanical property it bound to explode at elevated temperature and hence manufacturing through process like casting are much difficult unlike other metal. This paper employed to understand various methods and techniques to overcome the practical difficulty of Magnesium based alloy and to increase its surface quality of Mg alloy through literature review. In this study experiments will be conducted with different surface quality by varying the composition of metal and various input parameters. This paper gives a review on the machining characteristics of Magnesium metal matrix composite material and to analyze the output parameter like surface roughness of the material measurement by XRD technique and Microstructure Analysis of Magnesium alloy.

Keywords: Magnesium MMC, XRD Technique, Micro Structure Analysis, Biomedical, Bone replacement.



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Indra Ganesan College of Engineering

25 Valley, Madurai Main Road

Chinnikandam, Trichy-620 012

363. COLD METAL TRANSFER (CMT)-AN ANALYSIS

Hema Latha B¹, Jegathiswari D², Mr. Samuel M³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Cold Metal Transfer technology is one of the modified welding technologies for joining dissimilar, similar and thicker materials by providing developed weld bead aesthetics with restrained metal deposition and low heat input compared to other welding process. This low heat input assures no spatter during welding process. CMT shows low porosity for various heat inputs. In this article a review has been done on the Cold Metal Transfer process, microstructure and other weld characteristics have been discussed for different metal combinations. CMT welding has found applications in automobile industries, defense sectors and power plants as a method of additive manufacturing.

Keywords: Cold metal transfer [CMT] Welding, Dissimilar Joint, Similar joint

364. MACHINING CHARACTERISTICS OF ALUMINIUM METAL MATRIX REINFORCED COMPOSITE - A REVIEW

Joshi Dayana K¹, Kanagaraj K S², Mr. Samuel M³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Due to the good physical and mechanical properties in comparison to metals over a wide range of operating conditions and high requirements of the light weight and high strength materials lot of research work is going on Aluminium metal matrix composites. The addition of reinforcements into the metal matrix improves the stiffness, wear, and specific strength, creep and fatigue properties compared to the conventional engineering materials. This paper provides a literature review, on machining of Aluminium metal matrix composites. This paper is an attempt to give brief account of recent work to predict cutting parameters & surface generated in Aluminium Metal Matrix Reinforced Composite (AMMC). By suitably selecting the machining parameters, machining of AMMC can be made economical.

Keywords: Aluminium Alloy, Particle Reinforcement, Metal Matrix Composite, Machining Parameters, Mechanical Properties

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Indra Ganesan College of Engineering

16 Vellore, Madurai Main Road

Manikandam, Trichy-620 012

365. OPTIMIZATION ON MACHINING PARAMETERS OF ALUMINIUM ALLOY AND B4C REINFORCED COMPOSITE BY RESPONSE SURFACE METHODOLOGY- A REVIEW

Kiruthiga V¹, Madhavan S², Mr. Samuel M³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Nowadays lot of research work is going on Aluminium metal matrix composite. In present paper review was carried out on the machining characteristics of Aluminium metal matrix composite is investigated and optimized by using Response Surface Methodology (RSM). The Aluminium alloy reinforced with Boron Carbide (B4C) and by using stir casting technique the specimens were prepared. The effects of the machining parameters in turning operation, the machining characteristics of Aluminium composite were investigated. A well designed experimental scheme was used to reduce the total number of experiments. Parts of the experiment were conducted with the orthogonal array based on the Response Surface Methodology (RSM). The parameters which influenced the machining characteristics were examined, and the optimal combination levels of machining parameters for material removal rate, wear rate, and surface roughness were determined.

Keywords: Al Alloy, Turning, Optimization, Response Surface Methodology (RSM), Machining Characteristics, Boron Carbide (B4C)

366. REVIEW ON JOINING OF ALUMINIUM ALLOY AND LOW CARBON STEEL BY FRICTION WELDING

Mahendran S¹, Muthaiya P², Mr. Samuel M³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Friction welding is a type of joining method which is widely used for welding of similar and as well as dissimilar metals. However, while joining of aluminium alloy and steel, there is a chance to form brittle intermetallic compounds, which makes the difficulty to get good joint. Currently, there is a demand in many industries for such type of dissimilar metal joining. Many researchers make it easy to join Aluminium alloy and low carbon steel and found that better strength using some inserts. The researchers conducted the experiments on dissimilar metals with suitable welding conditions such as friction pressure, friction time, forging pressure, forging time and rotational speed.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

367. STUDY ON PERFORMANCE OF STEEL FIBRE REINFORCED SELF COMPACTING CONCRETE

Neethimozhi A¹, Nithya P², Mr. Samuel M³

Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Concrete is the important construction material. The major component of concrete is cement which produces huge amount of carbon di oxide at the manufacturing stage of cement. The cement can be replaced partially by various by-products like flyash, Ground granulated blast-furnace slag, micro silica, etc. The hooked end steel fibres are added at 0.5%, 0.75% and 1% in the volume fraction of SCC of M60 grade. The flowability of fresh concrete as suggested by the European Federation of National Association Representing for Concrete guidelines were tested on slump flow, V-funnel, Orimet and L-box. The flow characteristics show the role of steel fibre degrading the flowability of SCC. In addition, the strength characteristics of steel fibre is also discussed.

Keywords: Steel fibre, Flowability, Workability, Strength

368. A REVIEW ON PARTIAL REPLACEMENT OF FINE AGGREGATE BY CERAMIC DEBRIS IN CONCRETE

Nivedha S¹, Priyanga G², Mr. Samuel M³ Assistant Professor,¹U.G Student

Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

In the ceramic industry, about 30% production goes as waste, which is not recycled at present. There is a growing interest in using ceramic waste materials as alternative aggregate materials for construction. In this study, an attempt has been made to find the suitability of the ceramic industrial wastes as a possible partial substitute for river sand. The present study contributes to identify an effective sustainable building material, which wastes can be utilized at various percentages as partial fine aggregate replacement. In this paper, a general review on the past studies are accomplished on the use of ceramic debris as partial replacement of fine aggregate in concrete and mortars. The varying proportions of ceramic debris ranged from 10% – 50% as a fine aggregate replacement. The experimental investigations on the fresh, hardened concrete properties and durability characteristics are reviewed and also microstructural investigations were discussed. The wide applications of ceramic waste comprehends its adoption in high strength concrete, high performance concrete and self compacting concrete.

Keywords: Ceramics, fine aggregate, strength and durability.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 015

369. OVEL CLUSTER BASED SCHEME FOR NODE POSITIONING IN INDOOR ENVIRONMENT

Ranya R¹, Goathar Fathima S², Ms. Saraswathi A³

Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Location estimation in Wireless Sensor Network (WSN) is mandatory to achieve high network efficiency. Identifying the positions of sensors is an uphill task as monitoring nodes are involved in estimation and localization. Clustered Positioning for Indoor Environment (CPIE) is proposed for estimating the position of the sensors using a Cluster Head (CH) based mechanism. The CH estimates the number of neighbor nodes in each floor of the indoor environment. It sends the requests to the cluster members and the positions are estimated based on the Received Signal Strength Indicators (RSSIs) from the members of the cluster. The performance of the proposed scheme is analyzed for both stable and mobile conditions by varying the number of floors. Experimental results show that the proposed scheme offers better network efficiency and reduces delay and localization error.

Keywords—Indoor positioning, Wireless Sensor Network (WSN), Localization, Cluster, RSSI

370. AN EFFICIENT TRADITIONAL AND ONTOLOGICAL-BASED DISTANCE MEASURES FOR TEXT CLUSTERING APPROACHES WITH ITS PERFORMANCE METRICS

Sharvesh Charam S.A¹, Sathasivam P², Ms. Saraswathi A³

Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Due to huge growth of internet usage, large volume of information flow has also been increased, which leads to the problem of information congestion. In unsupervised learning, clustering is considered as most important problem. It focuses on the way of identifying a structure from an unlabeled data collection. A cluster is a process of identifying and grouping the data objects based on the similarity between the objects from a dissimilar collection of objects. Decision of a good cluster can be shown that there is no absolute "best" criterion which would be independent of the final aim of the clustering. The main goal of a good document clustering scheme is to minimize intra-cluster distances between documents, while maximizing inter-cluster distances (using an appropriate distance measure between documents). A distance measure (or, dually, similarity measure) thus lies at the heart of document clustering. This review gives an implication about the different methods, distance measures and evaluation parameters of document clustering. This study is theoretical in nature and aims to cover the overall procedure of document clustering.

Keywords: Document clustering, Distance measure, unsupervised learning.


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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 017

371. AN EFFICIENT DOCUMENT CLUSTERING BY USING HYBRIDIZED HARMONY SEARCH K-MEANS ALGORITHM WITH THE CONSIDERATION OF MULTIPPOINT

Shalini P¹, Shanmuganathan P², Ms. Saraswathi A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Document clustering is the most needed process in the data mining field where the number of documents with different methodologies are scattered. The meaningful information can be extracted from the group of documents by grouping them effectively. There are various researches exists previously which concentrates on clustering the documents present in the real. In the previous work, document clustering is done by using the methodology called the Hybridized Harmony K-Means search (HHKM) algorithm. In that work, clustering is done by using the k-means algorithm and the centroids of clusters are found optimally by using the harmony search algorithm. The problem reside in this method is the poor accuracy while clustering the documents where the unrelated documents are grouped together. To overcome this problem, Multi Point HHKM (MPHHKM) approach is introduced, in which clustering can be done accurately. In this work, multi point analysis is done based on the similarity measurement. The experimental tests were conducted in an Reuters data set from which it is proved that the proposed methodology MPHHKM provides a better result than the existing approach in terms of improved accuracy.

Keywords: Clustering, Harmony Search, Multi Point, Optimal

372. A SURVEY PAPER ON FUZZY LEXICAL ANALYSER

Sudhakaran C¹, Sugasini.G², Ms. Saraswathi A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The objective of this paper is to analyze the design and implementation of the fuzzy lexical analyser and observe how it is different from the traditional lexical analyser. It is known that lexical analysis is an important phase of a compiler. It reads the source program character by character and uses regular expressions, finite automata methods for string matching. Unlike traditional lexical analysers, tokens in fuzzy analysers belong to more than one token type with varying degree of membership. The paper exchange views on the design and implementation of fuzzy lexical analysers. It observes algorithms that handle errors due to insertion, deletion etc. in the lexical analysis phase of a compiler. Several properties of fuzzy languages are also reviewed. Hence this paper gives a comprehensive view of fuzzy regular languages, models and algorithms.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

373.A SURVEY ON SMART READERS FOR BLIND PEOPLE

Vaishnavi G¹, Vigna Sri S², Ms. Saraswathi A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

The main objective of this paper is to present an Intelligent box for visually impaired people. According to World Health Organization (WHO), 81% are visually impaired who live in developing countries. Nowadays Human communication is mainly focused on text and speech. To read the text a human needs a vision. Survey conducted on several papers and systems provides hardware consisting of a camera interfaced with Raspberry Pi for processing the text. The camera is used to capture the text image of a handwriting or printed text. The raspberry pi makes use of Optical Character Recognition (OCR) software installed in it which again uses python programming to perform image to text conversion and text to speech conversion. The assistant is applicable for visually impaired people as well as for normal people in order to increase their level of comfort.

Keywords: Text to speech, Image to Text, Optical Character Recognition, Raspberry Pi, Speech output, Python Programming

374. DESIGN OF QUANTUM-SAFE CRYPTOGRAPHY FRAMEWORK AND QUANTUM KEY DISTRIBUTION FOR THE CYBER-PHYSICAL SYSTEM (CPS) ERA

Vijaya Dharani K¹, Vinothini S², Ms. Saraswathi A³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract

Quantum-secure security framework has to be devised for guaranteeing secure device-to-device (D2D) interactions and device-to-cloud (D2C) integration. The security of digital disruption and transformation in the digital era can be succulently bolstered through the quantum-safe cryptography framework solution. Quantum key distribution (QKD) protocol that intrinsically guarantees secure key exchange between quantum computers that uses quantum channel and communication. In this paper, the existing post-quantum, quantum-safe cryptography algorithms and QKD approaches are deeply studied and analyzed with the aim of bringing forth an integrated and insightful quantum cryptography solution framework for ensuring unbreakable and impenetrable CPS environments. The proposed cryptography algorithm is to serve immensely in securing the interactions amongst heterogeneous and multiple digitized elements, the connected devices, the software applications running on different and distributed cloud environments (public, private, hybrid and fog/edge). The framework also facilitates the initiation of quantum cloud that is hosting and providing the proposed quantum cryptography solution as a service.

Keywords - Quantum safe cryptography, Quantum Key Distribution, Cyber-Physical Systems, Protocols.



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Indra Ganesan College of Eng
IG Valley, Madurai Main
Manikandan, Trichy-620

375. SMART ADOPTION SYSTEM USING IMAGE PROCESSING TECHNIQUES

Sivasangari C¹, Abinaya R², Ms. Saraswathi A³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering
Indra Ganesan College Of Engineering

Abstract

Adoption of child plays a major role in recent times. This is due to the emotional and ethical challenges faced by both the adopting parent and the children. This paper presents a new technique of applying image processing technology that uses an image based approach to the system. With the rapid evolution of technology there are large numbers of face recognition algorithm. In this paper we have attempted to review the best face recognition algorithm by considering all the algorithms and its functions. Viola-Jones algorithm is used to develop the entire system. Using this algorithm image processing is implemented for further enhancement of the system. This lowers the complexity in the child adoption system and also helps to increase the efficiency of the system.

Keywords: Algorithm, pixels, face, images, tools, accuracy, facial features, pre-processing, database matching

376. FOREST FIRE DETECTION SYSTEM

Akila K¹, Annie Shalom S², Ms. Saraswathi A³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract

The forest is one of the most important wealth of every country. The forest fires destroys the wildlife habitat, damages the environment, affects the climate, spoils the biological properties of the soil, etc. So the forest fire detection is a major issue in the present decade. At the same time the forest fire have to be detected as fast as possible. In the proposed method, a color spatial segmentation, temporal segmentation, global motion compensation, Support Vector Machine classifications are used to detect the fire and to segment the fire from the video sequence. The method is implemented over the two real time data sets. The proposed method is appropriate to segment fire events in real-time over unconstrained videos.

Keywords: Fire-like pixel detector, Regions of interest, Support Vector Machine, Temporal Segmentation.



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 016

376. GATE CAPSULE- AN APPLICATION TOWARDS THE CREATIVE LEARNING EXPERIENCE

Arthi M¹, Azhagan Meena M², Mr. Thamilselvan R³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract

Gate Capsule is an android application (app) which is used by the students for the preparation of Gate Exams. There are many mobile app which are previously available for Gate Preparation. This app improves our knowledge completely on one entire subject, in the form of Lectures and PDF. The lectures will be of both kinds documents and video. The incorporation of practice tests is helpful to understand the strengths and weakness in the particular subject. There are also provisions given where the reference towards the previous GATE question papers from which we can know which question is repeated often and the format of questions asked. The rating and review about an app through play store can also be given. This app is lesser in size and this app is a user-friendly app and also it is an offline app. Gate Capsule which is free of cost, so anybody can use the app for the preparation of Gate Exams.

Keywords— Gate, Android app

377. EFFICIENT SMART STREET LIGHT CONTROL SYSTEM USING MUTLI SENSORS

Devi K¹, Dhanalakshmi S², Mr. Thamilselvan R³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract

Street Lights provide safety measures for prevention of accidents during the night, especially for the pedestrians. Street lighting has been found to reduce pedestrian crashes by approximately 50%. However, still the power is not managed thereby resulting in wastage. Some of street light control systems have been developed to control and reduce energy consumption of public lighting system. This project is to automate the working of street lights mainly on national highways. The system makes use of LDR for light detection and Ultra Sonic Sensor for object movement. This system can bring major change to the economy as it effectively reduces the wastage of electric power. This system does not need any human power and is automatically controlled by Arduino.

Keywords: Light Dependent Resistor (LDR), Global System for Mobile communication (GSM), Ultra Sonic Sensor, Arduino, Smart Street light.


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Indra Ganesan College of Engineering
KG Valley, Madurai Main Rd,
Manjandam, Trichy-620 012

378. SURVEY OF MACHINE LEARNING ALGORITHMS FOR EFFICIENT HUMAN ACTIVITY RECOGNITION

Hari Krishnan S¹, Junani V², Mr. Thamilshelvan R³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

It becomes essential to monitor the Activity of Daily Living (ADL) of elderly people living alone by keeping track of their day to day activities & helping those having strong health issues. In this paper various machine learning algorithms for human activity recognition is studied and their efficiency is compared. Along with this, an extensive study is carried out to learn about the current technologies used in activity recognition. It analyzes the Dictionary learning algorithms like K- singular value decomposition (K-SVD) and Hidden Markov model. Activity recognition is generally done in the form of signals generated through sensors. With this signal, the sparse combinations of atom from an over complete dictionary has been constructed for the effective growth of ADL monitoring system. The main objective is to explore the limitations of self-dependent old age persons and suggest ways of overcoming it. By using the different wearable and non-wearable sensors, one can easily monitor the human activity and evaluate the data generated through it.

Keywords: Dictionary learning, sparse representation, K-SVD, ADL problem.

380.A REPORT ON THE ISSUES IN MOBILE ADHOC NETWORK

Jenifer C¹, Jenifer S¹, Mr. Thamilshelvan R³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

Mobile Adhoc Network (MANET) is a self-configured network with mobile nodes. MANET is a infrastructure-less network. The main features of MANET are dynamic topology, point-to-point communications and network boundary security are more challengeable. Due to the mobile nodes and the wired networks, the routes used for the transmission of the data packets are not fixed. The primary obstacle for MANET is real-time routing protocol. The characteristic issue in the mobile adhoc network is unreliable wireless communication between the mobile nodes due to the eminent limitation in energy resource. This paper is a survey on the issues and obstacles in Mobile Adhoc Network.

Keywords: MANET, Wired networks, Dynamic topology.


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Indra Ganesan College of Engineering
16 Valley, Madurai Main F
Masilankam, Trichy-620

381. EFFECTIVE DATA MANAGEMENT AND REAL TIME ANALYTICS IN INTERNET OF THINGS

Kesavamurthi M¹, Kiruthika S², Mr. Thamilshelvan R³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

Integrating various embedded devices and systems in our socio-economic living environment enables Internet of Things (IoT) for smart cities. The underlying IoT infrastructure of smart and connected cities would generate enormous amount of heterogeneous data that are either big in nature or fast and real time data streams that can be leveraged for safety and efficient living of the inhabitants. Real time analytics on data enable to extract useful information from the voluminous data and provide information to users for decision making and also help in feedback mechanism. In this paper, the effective management of heterogeneous data and real time analytics on data are studied. Data management techniques should be consistent, interoperable and ensure reusability and integrity. We have explained the various architectures that can be used to deploy IoT in neural networks and the various streaming techniques for real time analytics.

Keywords: Real time analytics, data management, heterogeneous data, IoT.

382. ZIGBEE BASED CHILD TRACKING IN INDOOR ENVIRONMENTS

Marla Francis D¹, Ragavi A², Mr. Thamilshelvan R³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

Wireless Sensor Networks (WSNs) are a kind of ad-hoc networks where the nodes in the network have sensors on board and can sense different phenomena around the sensors deployed in the field. WSNs became very popular due to its diverse nature of applications including Cyber-Physical Systems, Precision Agriculture, Disaster relief & Rescue operation, Object Tracking in terrestrial environment, Health care application to monitor the physical parameters of a human, space application etc. Most applications use the location information of a sensor node as an inherent characteristic. Location information is mandatory to identify in which spatial coordinate the sensor data originates. Broadly, the localization techniques are classified as: range based and range free methods. In this busy world, it is difficult for the parents to control child movement's in crowded places. There is a substantial risk that the child may get lost in the crowd. This has motivated to propose a solution to track the child movement in the crowded area like shopping mall, theatre, Play station etc. This proposed system helps to track the location of the child in In-Door environment using range based localization technique. RSSI is a parameter used to estimate the child location and communicate its position to parents. Child and parents are considered as nodes, child would be wearing ZigBee and GSM modules which periodically sends signals to the parent node. If the child gets moved away from parent, then parent receive the accurate location of the child and track the children within a range. With the use of distance measurement, position of children will be computed, and location of child is informed to parents.

Keywords: Zigbee, RSSI, TDoA



PRINCIPAL
Indra Ganesan College of Engineering
10 Valley, Madurai Main Road
T. Nagar, Trichy-620 012

383. WORD SENSE DISAMBIGUATION USING OPTIMIZATION TECHNIQUES

Rathramoorthy M¹, Sabinathan K², Mr. Thamishelvan R³

Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

In the field of Computational Linguistics, Word Sense Disambiguation (WSD) is a problem of high significance which helps us to find the correct sense of a word or a sequence of words based on the given context. Word sense disambiguation is treated as a combinatorial optimization algorithm wherein the aim is to discover the set of senses which help to improve the semantic relatedness among the target words. Nature inspired algorithms are helpful to find optimal solutions in reduced time. They make use of collection of agents that interact with the surrounding environment in a coordinated manner. In this article, two such algorithms, namely, Cuckoo Search and Firefly algorithms, have been used for solving this problem and their performance have been compared with the D-Bees algorithm based on Bee Colony optimization algorithm. They have been evaluated using the standard SemEval 2016 task 11 data set for complex word identification. Experimental results show that Firefly algorithm is performing the best.

Keywords: Word sense disambiguation, Cuckoo search, optimization, firefly, Bees algorithm, unsupervised

384. SURVEY ON SENTIMENTAL ANALYSIS TECHNIQUE

Saritha M¹, Sumathi S², Mrs. Thamarai J S³

Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

The sentimental analysis is a dominant role in opinion mining is additionally referred to as sentiment analysis because of clear type, review sites, blogs, and tweets area unit on the market in digital type. Sentiment analysis is that the field of study that analyzes client opinion, feedback, sentiment analysis, attitudes and feeling from communication. At intervals fraction second, we have a tendency to classify the text in several manner in several seconds. It's one in all the active analysis areas in linguistic communication process. There are a unit range of techniques we want to classify the opinion reviews. The main problematic in the sentiment analysis is to understand the usage of negation and the taxonomy of positive and negative sentiments recorded by the users in the social group. The main aim of this paper boom a survey regarding the presently available technique, application and problem that appear in the field of opinion mining.

Index terms- Sentiment analysis, Naives Bayes, Support vector machine, Aspect extraction, Positive and negative

Keywords: Adaptive E-Assessment, Multiple Choice Questions (MCQ), Degree of Toughness (DT), Structural Equation Modeling (SEM)



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Indra Ganesan College of Engineering
10 Valley, Madurai Main Road
Manikandam, Trichy-620 012

305. ONLINE ATTENDRE TRACKING SYSTEM

Thivya Priya R¹, Anchaya A K², Mrs. Thamarai J S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

The Educational institutions are much more focused on their academic and business motives where, the students are not comfortable with the stand-alone applications provided to them for their privilege to have a connectedness within themselves and the management. This is because those applications are comprised with much less features which failed to have such an interactivity among the students. This derives the objective of the proposed system which, is to provide students, the utmost interactive experience to be socially connected and to make the users to be socially responsible. Here, the students can use Blood-Bank portal to be the donor or beneficiary by providing their non-confidential health details. And, The Institution can make better decisions by conducting an online election/poll with the students as the voters. Also the students can share their ideas and opinions with other members through Blog, Portal, where the students can even use this as a platform to show their support for the pulling. The students can also keep a track of their presence in the institution and they will get notified on insufficient attendance. Admin is also provided with the facility to post some prominent issues like circulars, new regulations, events etc. which shall be shared with all the students for their kind references. Overall, the application is developed for a group of people to make them to be socially connected and to be socially responsible. The entire control of application lies in the hand of administrator and the admin possess the power to remove the user in-case of any misconduct or breach of any of the terms and conditions laid down by the application.

Keywords: Last Planner System, Look ahead planning, Constraint analysis, Root cause analysis, Percentage

306. REVIEW ON PRIVACY PRESERVING MODELS FOR EFFICIENT HEALTHCARE BIG DATA SHARING IN CLOUD

Benazir M¹, Guna seelan D², Mrs. Thamarai J S³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

Healthcare data is highly confidential and thus sharing of those data is complex. But to diagnose a patient, the professionals need to access their healthcare data. Those data will be in the form of Electronic Medical Record (EMR) which includes multimedia data like X-ray, Scan and ECG. Size of the EMR is rapidly growing thus it is to be stored in format of Big Data. Major issue in Big Data is privacy, as EMR is taken into account a tiny change in data could create a larger impact. Data theft attack is considered to be the serious security breaches of Big Data. On the other hand limiting the access of EMR must not restrict the data flow within the authorized users.

Keywords: Electronic Medical Record (EMR), KP-ABE algorithm



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Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Madurai, Tamil Nadu, Trichy-620 012

387. EFFECTIVE MANAGEMENT OF PARKING AREA

Hari gowtham M¹ Hariharan B², Mrs. Thanaraj J S²
Assistant Professor,¹U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract:

When a car enters the parking area, it takes so much time to find the free slot to park. On the other hand, all the paid parking area owners suffer from handling congestion inside the parking area. They are spending huge amount as a salary for their employees to manage the parking area. So there is huge need for effective management of parking area. So the proposed system describe a method to automate the management of car parking area without manual traffic workers i.e., it discusses a project which presents a miniature model of an automated car parking system that can regulate and manage the number of cars that can be parked in a given space at any given time based on the availability of parking slot. By using the logic which is given in the database the parking space is effectively managed. This proposed system is suitable for implementing in all paid parking areas such as in malls, hospitals, etc..

Keywords: congestion; reducing the manpower; parking slot allocation; image processing

388. SOLVING SUDOKU PUZZLE USING DNA COMPUTING

ISWARYA K¹,

Abstract

Sudoku is a logical puzzle that does not require any computation. The task for the player is to place a digit among 1 to 9 in a cell in such a way that no cell in the same row and column has the same value. So, in a 9×9 grid, there exists 9 possibilities of placing a value in a cell. Hence, there is no polynomial time solution exists for this puzzle. In this paper, we propose an algorithm for solving the sudoku problem in DNA computing using Adleman-Lipton model. Here, we solve the problem by representing the puzzle as graph and applying graph coloring algorithm

Keywords: Sudoku puzzle, Graph Representation, Graph Coloring, DNA Computation



PRINCIPAL
Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Mudukondam, Trichy-620 012

389. ANALYSIS OF ROAD TRAFFIC ACCIDENTS USING DATA MINING TECHNIQUES

Khajaznoinudeen S¹, Kiruthika B², Mrs. Thamarai J S³
Assistant Professor,^{1,2} UG Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract:

Roadway traffic accident (RTA) is one of the major issue faced by almost all of the citizens in the world. Road fatal deaths are constantly increasing while the road safety is seriously lacking and becomes a major concern of transportation agencies. A retrospective observational study was made on data from 2010 to 2017 with an objective to find the injury status based on the severity of the casualties. In this paper we apply statistical analysis and data mining algorithms to address this accident issues. Analysis shows that the distribution of road accidental injuries and deaths varies according to gender, age, surface conditions, weather conditions and lighting conditions. Apriori algorithm is used to find the interesting association rules. Naive Bayes Classifier is used to design the classification models and K means clustering algorithm is used to form clusters. Hence safe driving suggestions were given based on the association rules, classification models, clusters and statistics. Thus the preventive measures are to be taken by every private and public sectors, government and non governmental organizations for an accident less society..

Keywords: RTA, road safety, injury, association, clustering


390. CLASSIFICATION OF SONG GENRE BASED ON AUDIO DATA

Lourdhu Mary D¹, Maria Shobana J², Mrs. Thamarai J S³
Assistant Professor,^{1,2} UG Student Department Of Civil Engineering Indra Ganesan College Of
Engineering

Abstract:

Genre classifications are commonly used to structure the large collection of music. Many music listeners create playlists based on genre, leaving potential applications such as playlist recommendation and management. Music genre are descriptions that are used to characterize the music. The common characteristics are instrumentation, harmonic content and rhythmic content. The aim of this project is to classify the song genre using machine learning techniques. Experiments are to be carried out on dataset called GTZAN dataset that contains 9 different genre and each genre has 100 audio clips of length 30 seconds. Initially, audio clip is divided into three frames of length 10 seconds. The proposed feature uses multiple feature vectors and classification techniques for each frame. Multiple feature vectors are obtained by features extraction of song. This paper is about content-based music recommendation using deep learning techniques. Classical machine learning algorithm namely K-nearest neighbour is to be employed. The final classification is obtained by taking mean value for the frames. This can be used for bulk categorization of music.

Keywords: music genre, feature extraction, multiple feature vector, classification techniques


PRINCIPAL
Indra Ganesan College of Engineering
16 Valley, Madurai Main Road
Manikandam, Trichy-620 012

391. EMOTION RECOGNITION FROM FACIAL EXPRESSION USING DEEPLARNING

Merlin Reeta P¹, Niroshini R², Mrs. Subasree K³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract:

Facial ex recognition is the part of Facial recognition which is gaining more importance and need for it increases tremendously. Though there are methods to identify expressions using machine learning and Artificial Intelligence techniques, this work attempts to use deep learning and image classification method to recognize expressions and classify the expressions according to the images. Various datasets are investigated and explored for training expression recognition model are explained in this paper. Inception Net is used for expression recognition with Kaggle (Facial Expression Recognition Challenge) and Karolinska Directed Emotional Faces datasets. Final accuracy of this expression recognition model using Inception Net v3 Model is 35%(-)

Keywords: Facial recognition; expression recognition; deep learning; image recognition; Facial technology; signal processing; image classification

392. AUTOMATIC FACE EXPRESSION RECOGNITION TECHNIQUES

Nithing A¹ Pavanthan A², Mrs. Subasree K³
Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan
College Of Engineering

Abstract:

Face Expression Recognition (FER) has become main area of interest due to its wide applications. Automatic Facial expression recognition has drawn the attention of researchers as it has many applications. Facial Expression Recognition gives important information about emotions of a human being. Many feature selection methods have been developed for identification of expressions from still images and real time videos. This work gives a detailed review of research works done in the field of facial expression identification and various methodologies implemented for facial expression recognition.

Keywords: Emotion recognition; automatic emotion recognition; deep learning; image recognition; speech technology; signal processing;



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandan, Trichy-620 012

393. IMAGE PROCESSING BASED FAULT DETECTION AND ISOLATION FOR MECHANICAL COMPONENTS

Praveen Kumar M¹, Trisilla Priyanka S², Mrs. Subasree K³

Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

Abstract:

Fault Detection and Isolation (FDI) is essential in mechanical industry to detect and isolate objects with manufacturing defect. At present in assembly line, mechanical components are transported from one stage to other stage for assembly, packing etc. During this process, components are randomly drawn from the conveyor belt and manually inspected. Since the random inspection is done manually, there is a chance of missing out defected components in the assembly line. Manual inspection is time consuming and all the features of the components cannot be verified accurately. Hence, there is a need for a image processing based system to detect the anomalies in the components sent in the conveyor belt. In this work, camera is mounted above the conveyor module and captures the images of nuts and bolts which moving on conveyor belt. Captured images are preprocessed to remove background noise, then image is enhanced to get the appropriate features and Region of Interest (diameter of nut) is extracted to measure the diameter. If any anomaly is found in the attributes (diameter) of the mechanical components, an electrical signal will be sent to the Solenoid valve and then it actuates deflector plate by the pneumatic cylinder. Defected component is then carried by the secondary conveyor to the re-matching and the quality product are then carried to the packaging will passed to the separator through microcontroller. In this way, components with manufacturing defect are identified and isolated from assembly line.

Keywords: Fault detection, Isolation, Segmentation, Feature Extraction.

394. SMART EQUIPMENT CHARGER

Raja V¹, Rajhina Raj R², Mrs. Subasree K³

Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

Abstract:

In today's world, the usages of electronic devices are increased. The most of the devices are depending on power charger, the power charger may vary depending on the applications such as mobile phone charger, vehicles, electric vehicle batteries chargers and charge stations. Many people are charging their mobile phone over the night. Since the overnight charging of device is a lead to a high average state of charge, which leads to battery aging. Vampire power is one of the daunting issues faced by the world. In the proposed system when battery of the device is full it will automatically stop the power flowing to the battery. The battery level of the mobile phone are tracked by sensors and Arduino for automatically switch off the power. This product is very economical and can be used in any kind of battery charging. As it involves simple components trouble shooting is very easy in case of occurrence of any fault. As the result it helps to conserve amount of power and increase the battery life.

Keywords: Vampire power, Arduino, aging, automatic power off



PRINCIPAL,

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manakandam, Trichy-620 012

395. Detection of Microaneurysms and Haemorrhages in Retinal Fundus image -An Overview

Reshmi D¹, Roobini S², Mrs.Subasree K³
Assistant Professor,^{1,2}U.G Student Of Indra Ganesan College Of Engineering

Abstract:

Computer Aided Diagnosis (CAD) with image processing algorithms aids to detect the Diabetic Retinopathy in Fundus image. It has gained significant attention from researchers and clinicians perspective for two reasons. Firstly, Research in DR to detect it at the early stage would reduce the visual impairment. Secondly, Computer aided detection of retinal abnormalities would reduce the burden on clinicians by identifying the landmarks indicators of DR at early stage. Clinicians need to provide the validation and suggest further treatment required. Detection of Microaneurysms (MA) and Haemorrhages (HE) in Retinal Fundus image is the foremost signs to identify the Diabetic Retinopathy (DR). This motivated us to review the existing Image processing algorithms to identify and assess the MAs and HEs. This study would enable us to develop a best performing system for detection of DR without human intervention. In this paper, we have explored the challenges in extracting the normal and abnormal features in fundus image and current trends of research in the detection of MAs and HEs

Keywords: Fundus Image, Microaneurysms (MA) , Haemorrhages(HE), Pre-processing, Feature extraction

396. SOFTWARE DEFECT PREDICTION USING APRIORI BASED CASCADED RANDOM FOREST ALGORITHM

Suresh K¹ Suriya Prakash K², Mrs.Subasree K³
Assistant Professor,^{1,2}U.G Student Of Indra Ganesan College Of Engineering

Abstract:

Software Defect Prediction (SDP) plays a major role in software development phase for predicting the faults in software. This paper provides an overview of APRIORI algorithm with Cascaded Random Forest (CRF) algorithm and its application to predict defect prone modules. Datasets employed for training and testing the proposed SDP model are PROMISE DATASET and BUG PREDICTION DATASET. The proposed model achieved high software reliability and high classification accuracy. The superiority of APRIORI- CRF over the Decision Tree algorithm and CRF in predicting error prone modules is established in this paper.

Keywords: Software Defects, Cascaded Random Forest, Decision Tree, APRIORI algorithm



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IG Valley, Madurai Main
Mankandam, Trichy-620 012

397. ROAD TRAFFIC MONITORING SYSTEM

Tamilarasan M¹, Tamilazhagan M², Ms. Anbarasi A³
Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

Abstract:

Nowadays, the Congestion in traffic is one of the major issues in many cities. There are different causes of congestion in road traffic like capacity of the lane is insufficient, more demand, huge delays in signals, increase the number of vehicles etc. As populations are growing, it is difficult to manage the traffic on the roads and also the people has to wait for the green signal for a long time as it is not depend on the density of traffic in the real time. This paper presents the method to find the density of the traffics in each signal by using camera and sensors. According to the vehicle density on road, the decisions are made to switch the traffic lights to red or green. As the result it will reduce the traffic on roads which will help to reduce the accidents

Keywords: Density of traffic, Internet of Things, congestion, sensors

398. PROGRAMMING AND EPIC BASED DIGITAL STORYTELLING USING SCRATCH

Vinoth R¹, Parkavi S², Ms. Anbarasi A³
Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

Abstract

Storytelling is a powerful tool to impart traditional and cultural values to children. Traditional storytelling followed by our ancestors have reduced. Digital storytelling has emerged as successor and modern storytelling method follows similar strategies of classical storytelling. Digital storytelling has started its evolution in teaching and learning process and emerged as the best tool to engage teachers and their students. Middle school students use various digital storytelling environments to learn a programming language. In this paper, Epic Based Digital Storytelling (EBDS) pedagogy using scratch to learn a programming language is discussed. The various aspects of using EBDS in education is given in the paper.

Keywords: Epic Based Digital Storytelling, pedagogy, Scratch, team



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399. AN EXPLORATORY ANALYSIS OF ENERGY STATISTICS OF UNITED STATES DIVISION

Deepa T¹ Dharshini K², Ms. Anbarasi A³
Assistant Professor,¹U.G Student of Indra Ganesan College Of Engineering

Abstract

Energy plays a vital role in the modern age. In ancient period, people were using lamps lighted by oil but now people cannot live without electricity. Multiple energy resources were replaced and there is huge demand of many energy resources in multiple countries. Most commentators expect improved energy efficiency and reduced energy demand to provide the contribution to tackle global climate change. Improving energy efficiency and reducing energy demand are widely considered as the most promising, fastest, cheapest and safest means. A study has been done on the data provided by the Energy Statistics of United States Division from the year 1990 to 2014. There are multiple energy resources in this dataset but we have analysed nine energy resources. Their production among world-wide and in India, losses, import, export and industrial usage. The goal is to find the top energy resources produced in India and also the energy resources that forms the unstable production. The analysis has been done using several factors like country, industries, domestic usage.

Keywords : Energy Statistics, Top countries in Energy production, Energy losses, Unstable energy

400. SKILLSET MATCHING FOR JOBS IN INDIA- AN EXPLORATORY ANALYSIS

Gopi U¹ Harish R², Ms. Anbarasi A³
Assistant Professor,¹U.G Student of Indra Ganesan College Of Engineering

Abstract

Employment is a very important part of the economic, social and environmental development of a country. It provides financial freedom and decision making power to a person. But the percentage of people employed in the service sectors are decreasing now a day. Employment opportunities are tremendous but the main reason behind reduced employment is due to the lack of skillset that each industry expects from the graduates. So, an analysis must be done to gather what skillsets each industry needs and an awareness must be created. Hence the persons seeking jobs in each particular industry can prepare to reach those standard skillsets at the earliest. This analysis can be done using the data available in the job sites that acts as a linkage for job seekers and the recruiters, the location of each industry and the salary for each designation and the age group of people and the experience they expect. So, with the analysis of such datasets, job seekers can also prepare themselves for the range of salary they needed and plan accordingly. Job seekers of different age groups can also approach the type of job according to their age and experience. Thus, in our project we use exploratory data analysis method, which is the majority use method to bring out hidden data available from the dataset, to analyse the number of jobs for each skillset, the fields which offers many jobs, the salary range for each skillset, experience and the state which has the highest employment opportunities. With this analysis, a high level information about widespread jobs and also its requisites is obtained.

Keywords: Job analysis, Skillset Matching, Exploratory data analytics, Data visualization.

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401. AN AUTOMATIC SPEED CONTROL SYSTEM FOR VEHICLES

Irudhayanaj A¹, Janani S², Ms. Anbarasi A³
Assistant Professor,^{1,2}UG Student Of Indra Ganesan College Of Engineering

Abstract:

Speeding is listed as the second highest death cause in the world. Road accidents claim more than 1.45 Lakh lives every year. Road accidents can be kept under control by adopting safety measures. It still does not reduce the number of accidents. Hence, there is a need to bring an intelligent speed adaptation to vehicles. This research project explains the usage of colour strips on roads to control the speed of vehicles, thereby reducing the accidents. Various colour strips are marked on the roads where speed limiting is required. When a vehicle crosses a colour strip, the sensor attached to the wheel of the vehicles reads the colour and sends the signal to programmable ECU/MCU. Programmable ECU/MCU activates the system by controlling the position of throttle valve/fuel leading to the control of speed. Different colours are associated with different speeds.

Keywords: speed control, sensors, throttle valve, Intelligent Speed Adaptation (ISA)

402.A SURVEY ON METHODS AND ALGORITHMS IN BIG DATA STREAMMINING

Janarthanan KJ, Kamalesh A², Ms. Anbarasi A³
Assistant Professor,^{1,2}UG Student Of Indra Ganesan College Of Engineering

Abstract:

Recently streams generated from any media became a persistent source of information, and thus stream mining is gaining importance in research. Due to the intrinsically dynamic nature of data streams with unlimited rate, stream mining algorithms varies from traditional data mining techniques. Big Data streams are continuous flows of huge volume of data. Examples of these data streams include network traffic, sensor data, call center records and so on. Their sheer volume and speed pose a great challenge for the data mining community to mine them and convert into useful data. Data streams demonstrate several unique properties: infinite length, concept-drift, concept-evolution, and feature-evolution. This paper surveys on most important algorithms and the models in the field of Big data stream mining.

Keywords: Big data, Stream mining


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403. AUTOMATIC BUG TRIAGE USING TF-IDF WITH TIME-METADATA

Kaviyarasu C¹, Kavalvizhi.B², Ms.Anbarasi A³
Assistant Professor,^{1,2}U.G Student Of Indra Ganesan College Of Engineering

Abstract:

An automatic bug triage process is an inevitable step to fix the software bugs. An automatic bug assignment approaches are based on text analysis method such as machine learning and information retrieval method. To decrease the manual and time cost, text analysis method is applied to perform the automatic bug triage. The main goal of essential bug triaging software is to allocate possible experience developers for new coming bug reports. The existing term-weighting technique deal with the frequency of use for weighting the terms and low quality. The proposed system employs the automatic bug assignment by using time-metadata in tf-idf term weighting technique (ABA- Time-tf-idf) and social network techniques. In ABA-Time-tf-idf, the recency of use in each terms used by developer is considered to determine the values of the developer expertise. The social network techniques are used to determine the relationship between the developers from the comments in the bug reports. Then the experience model is created based on the activity factors of the developer. The evaluation shows the accuracy and rank score for the developer to fix the new bug reports. The performance of proposed system is evaluated by using Mozilla bug data set. To show the effectiveness, Time-tf-idf technique is used to remove the threshold activity, pruning issue and to improve the overall quality of the bug data by reducing the time and cost of software development.

Keyword : big data stream mining

404.HTTP RULE BASE INTRUSION DETECTION AND PREVENTION SYSTEM

Manoharan T¹, Meena R², Ms.Pappath³
Assistant Professor,^{1,2}U.G Student Of Indra Ganesan College Of Engineering

Abstract:

The objective of HTTP Rule Base Intrusion Detection and Prevention System (IDPS) is to provide security for one of the application layer protocols namely HTTP (Hyper-Text Transfer Protocol). Such an HTTP based Intrusion Detection System (IDS) detects header attacks and attacks in payload (includes HTML and scripting). Misuse detection uses signature based approach where predefined patterns are defined. The input text or pattern is compared with the predefined signatures to detect malicious activity. Furthermore new types of attacks are continuously created. The new attacks created by attacker are also detected by these IDS, only if attacks are in the form of signatures. Signatures are defined either in a single-line or by complex script languages and are used in rule base to detect attacks. These signatures and rules have to be updated periodically as the attacks are continuously changing its nature of attacks.

Keywords: Intrusion detection, ids



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Manikandan, Trichy-62

405. HYBRID CLASSIFICATION FOR SENTIMENTAL ANALYSIS ON TWITTER DATA IN BIG DATA ANALYTICS

Milton Billgates j¹, Mohammed Azrif J², Ms. Pappathi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

The Big data is a high volume variety velocity of data. Big data analytics is the process of evaluating large amount of data. The analysis of big data is categorize into multimedia data analysis ,audio analysis, video analysis, structured data analysis, text data analysis ,web data analysis ,mobile data analysis [1]. now a day's most of social networks blogs, online discussion has massive amount of data .Sentimental analysis is a way to identify the different people expression ,views and opinion and validate the interact of people in terms of positive, negative and natural .In the paper leverages the analysis of twitter data is difficult compared to other analysis due to misspelling words ,short words and image etc., .In the proposed work, Hybrid classification which is the combination of both Support Vector Matrix and Naive Bayes Algorithm provides better result compared to other classification sentimental analysis. [2]

Keywords:Data set, Big Data, Support Vector Machine (SVM), Naive Bayes (NB), Training Set, HDFS ,NoSQL

406. APPLYING DATA MINING TECHNIQUE TO PREDICT TRENDS IN AIR POLLUTION IN MUMBAI

Pavithra.N¹ Priyanka A², Ms.Pappathi³

Assistant Professor,^{1,2} U.G Student Department Of Civil Engineering Indra Ganesan College Of Engineering

Abstract:

Prediction of air quality is a topic of great interest in air quality research due to direct association with health effect. The prediction provides pre-information to the overall population of the area about the status of pollution on which they can take precautionary measures and can protect their health. The problem arises when the level of SO₂, NO₂ and residual suspended particulate matters in the air increases than that of their restricted level. In this paper, the Prophet Algorithm, open source software, is applied to predict the trend of air pollution in the city of Mumbai, Maharashtra. The Prophet is machine learning algorithm to forecast and also to predict time series data. It is based on additive model where non-linear trends are fit with yearly and weekly seasonality. The graphical results are generated after using this algorithm which shows the trending pattern of the pollutants in the air of Mumbai.

Keywords:Data Mining, Prediction, Machine Learning



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Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Mankandam, Trichy-620 022

407. FOREX EXCHANGE USING BIG DATA ANALYTICS

Robinson Isaiah E¹ Selvi M², Ms.Pappathi³

Assistant Professor,^{1,2}UG Student Of Indra Ganesan College Of Engineering

Abstract:

Analysis and Prediction of forex has gained immense value in today's economy. The stock price prediction is a difficult process owing to the irregularities in stock prices. Every trader wants to know if the pattern has been repeated in past to know what will be the possible output of the current situation. The primary objective is to propose a methodology that will use a historical dataset and provide a more accurate prediction on stock price. In this paper, we will be using machine learning pattern recognition algorithm on forex tick dataset. The learned model then will produce pattern from the given dataset and on the pattern of increasing or decreasing, the buyer will initiate a buy or sell the stock respectively. We will use python coding to execute the algorithm in jupyter notebook. Matplot library will help us to perform graphing in the process and Numpy will be helpful in doing statistical analysis of data.

Keywords: Machine Learning, Big Data, Pattern Recognition Nump

408. IMPLEMENTATION OF CHATBOT THAT TEACH PROGRAMMING LANGUAGE

Shalini Gayathri S¹ Sivaraman S², Ms.Pappathi³

Assistant Professor,^{1,2}UG Student Of Indra Ganesan College Of Engineering

Abstract:

Learning programming language through the old traditional method (books or web) is considered outdated and inefficient in 2018. How interesting it would be if the person learning can interact with the computer so that he/she can get all his/her doubts cleared. To solve this problem AI (Artificial Intelligence) comes to the rescue. In simple words AI makes a computer to think before it gives out an proper answer to the user query. In this paper we are going to create a chatbot using machine learning techniques and simulate learning of programming language. The chatbot will be an artificial character, featuring conversational agent can reply to the user in simple language about the query made on a particular programming language.

Keywords: Artificial Intelligence, machine learning, chatbot, conversational agent.



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Manikondam, Trichy-6

409. DIABETES DISEASE PREDICTION USING DECISION TREE FOR FEATURE SELECTION

Sneha R¹, Suganya K², Ms. Pappathi³
Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

Abstract

In this paper more than one approaches are evaluated to optimise machine learning classification models for diabetes disease diagnosis. The main goal is to sort the medical data computation and choose the most suitable parameters to build a faster and more accurate model by using feature selection techniques. Reducing the number of features to construct a model could direct to more useful machine learning algorithms which helps the doctors to focus on what are the most significant assessment to take into account. Feature selection is one of the process in machine learning which choose a subset of topical features namely variables for construction of models. In this research paper we use three feature selection techniques like Recursive Feature Elimination (RFE), Genetic Algorithm (GA) and Boruta Package. After using feature selection at the end we use Decision Tree to predict the diagnosis Diabetes using a dataset named Pima Indian Diabetes Dataset and verify the performance of result model.

Keywords: Machine Learning, Recursive Feature Elimination (RFE), Genetic Algorithm

410. INTRUSION DETECTION IN SOFTWARE DEFINED NETWORKING USING SNORT AND MIRRORING

Vasanth S¹ Vijayakaran M², Ms. Pappathi³
Assistant Professor,^{1,2} U.G Student Of Indra Ganesan College Of Engineering

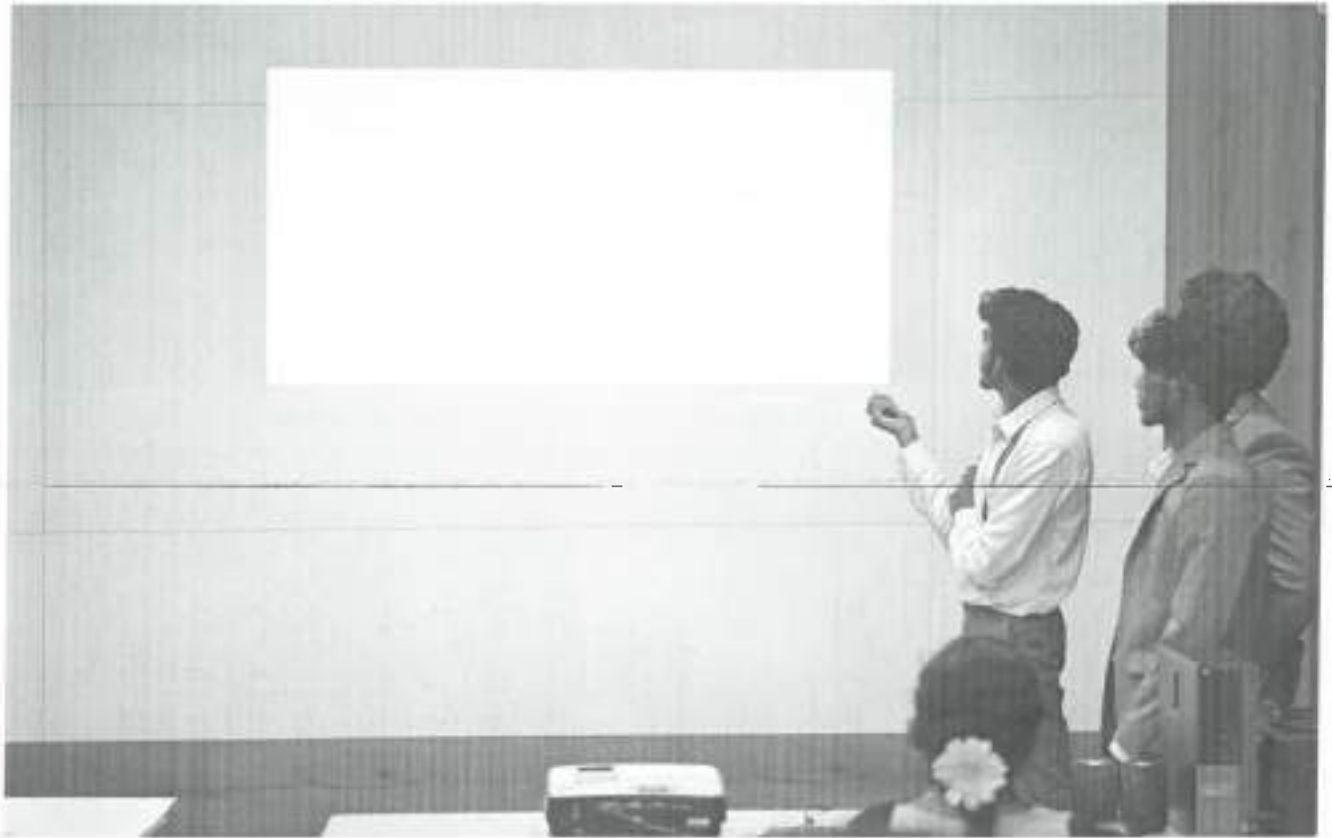
Abstract

Software-Defined Networking is a rising concept that aims to replace conventional networks by breaking up vertical integration. The control logic of network is separated from the underlying routers and switches, by logically centralized network control, and to program the network. An intrusion detection system is a software application that keeps track of a system or network for occurrence of any policy violations or malicious activity. Reports are sent to the network administrator or collected centrally using a security information and event management system when there is an occurrence of a malicious activity or policy violations. The aim of this paper is to create an Intrusion Detection System using Snort which is an open-source, free and lightweight application. The concept of the paper is to build an efficient and simplified Intrusion Detection System. First, setup a simple network topology with four virtual machines where three of them are hosts and fourth one is designed to run Snort.

Keywords: Software Defined Networking (SDN), OpenFlow Protocol, Open vSwitch, Snort, Mirroring, Intrusion Detection System (IDS), Denial of Service (DoS) attacks, Distributed Denial of Service (DDoS) attacks, Switched Port Analyser (SPAN).



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Indra Ganesan College of Engineering
15, Valluvar, Madurai Main Road,
Madurai, Tamil Nadu - 625 010



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IG Valley, Madurai Main

Kandamkore Telephone C



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Indra Ganesan College of Engineering

JG Valley, Madurai Main Road

Manikondam, Trichy-621 007