

# **2023 International Conference on Energy, Materials and Communication Engineering (ICEMCE 2023)**

**Madurai, India  
14-15 December 2023**



**IEEE Catalog Number: CFP23CA9-POD  
ISBN: 979-8-3503-9338-5**

**Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP23CA9-POD
ISBN (Print-On-Demand):	979-8-3503-9338-5
ISBN (Online):	979-8-3503-9337-8

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

Analysis of Machine Learning and Deep Learning for Diabetes Diagnosis in Design Thinking..... 1 <i>S. Ramya, D. Kalaivani</i>	1
Improved DFIG-Based Power Quality Controller Based on Machine Learning Cascaded Neural Networks ..... 8 <i>S. Prakash, S. Radheswari</i>	8
An In-Depth Analysis of the Elements Shaping Organic Farmers: A Systematic Review ..... 14 <i>A Ravi Kishore, K Niveditha, Archana Uriti, Chunduru Anilkumar, Ashok Sarabu, K V L Prasanna</i>	14
Grasshopper Optimized Artificial Neural Network for Robust Demand Side Management in Smart Grid..... 19 <i>S. Sivarajan, S. D. Sundarsingh Jebaseelan</i>	19
Performance Evaluation of Fuzzy Logic Controller Enabled Wind Energy Conversion System..... 24 <i>S. Prathiba, A. Bhuvanesh, A. Sheela, S. Suresh, M. Petchithai, Amirtharaj G</i>	24
Cascaded ANN Algorithm for Speed Control of Switched Reluctance Motor in EV Applications..... 30 <i>R. Tharwin Kumar, M. Ganga, E. Maheswari, Namala Ranjithkumar, Abhilasha Parthan, S. Sivarajan</i>	30
Synergic Study of Wear and Corrosion Behaviour of Low Alloyed High-Strength EH47 Ship Hull Steel..... 36 <i>S. Manivannan, P. Sivabalan, D. Logesh, S. H. Vishnu, N. Anish Kafoor, A. Bhuvanesh</i>	36
Hybrid Deep Learning Algorithm for MRI Brain Alzheimer’s Disease Prediction..... 42 <i>D. Karthikeyan, R. Nivasini, Kiruba Thangam Raja, D. Madhivadhani, B. Sivakumar, A. T. R. Krishna Priya</i>	42
A Study on SQL Injection Detection: AI-Based Perspective..... 48 <i>Dharani Pujitha Manepalli, Alekhya Garugu, Venkata Amrutha Kandarpa, Syam Manohar Kummari, Sanketh Rohi Jangam, Aravind Karrothu</i>	48
Exploring Quantum Key Distribution for Secure Communication: A Comprehensive Survey ..... 52 <i>Marrapu Hari Krishna, Alekhya Juttiga, Meesala Shobharani, D Deepa, Chunduru Anilkumar, Ashok Sarabu</i>	52
Solar Powered IoT Based Smart Agricultural Lawnmower Using Bluetooth/Android App ..... 57 <i>Yennam Rakesh, S. Saravanan, G. Irin Loretta, Srinivasa Rao Balasani, D S Naga Malleswara Rao, Kalaiyarasi. M</i>	57
Impact of Integrated Learning Approach to Students’ Success: A Case Study for the I Year PEEE Course in a Bachelor of Technology Programme ..... 62 <i>S. Saravanan, N Venkata Sireesha, M. Kalaiarasi, G. Irin Loretta, D S Naga Malleswara Rao, K. Karunanithi</i>	62
Design and Development of Protective Suit for Underground Workers..... 68 <i>A. Sheela, Abirami K P, Javin N T, Kamalesh S, Kavin R</i>	68
FPGA Interfaced ECG Signal Processing Based on Machine Learning Classifier..... 74 <i>R. Jeya Malar, J. Mary Metilda, M. Mageshbabu, R. Siva Nagini, Lily Saron Grace, B. Gireesha</i>	74

Power Quality Improvement by UPQC in a Distribution Network Using a Novel SRF Based Control Approach .....	80
<i>Avik Metia, Smarajit Ghosh</i>	
Performance Analysis of AI Based Interleaved Boost Converter Under PV Partial Shaded Conditions .....	86
<i>Shaji. K. A. Theodore, S. Meenakshi Sundaravel, Kavim K. S., P. T. Subasini, L. Anbarasu, Khaliq Ahmed</i>	
ANFIS Grey Wolf Optimized and Secured Path Selection Algorithm for VANET Applications.....	92
<i>P. Sivaprakash, K. S. Nisha, R. Jagadish Vijay, D. Madhivadhani, E. Maheswari, M. Sasikumar</i>	
High Speed FPGA Assisted IoT Development for Smart PV Grid Monitoring System.....	98
<i>M. Jagadeesh Kumar, R. Tharwin Kumar, G. Sujatha, E. Immanuelbright, S. Dhananjeyan, M. Sasikumar</i>	
Enhanced Charge Scheduling of Electric Vehicle Using Optimal Andean Condor Algorithm.....	104
<i>S. Prakash, Jeevanandham S, Abhinand S. L, Adith S</i>	
Modelling of a Novel Eight Switch 15-Level Asymmetric Inverter for PV Sources.....	110
<i>Devineni Gireesh Kumar, Venkata Sireesha Nagineeni, D Sivanaga Malleswara Rao, Kasireddy Idamakanti, Bhanu Teja Bacha, K Karunanithi</i>	
Optimal Integration of Hybrid Energy Sources for Power Flow Management in Grid System .....	116
<i>S. Prakash, Anirudh C. T, Mohanraj T, Suriya E</i>	
Assessment of DFIG Based WECS Connected to Grid Using an Optimized Control Approach .....	122
<i>S. Prakash, Akash A. S, Devika Aji, Shijin Clive</i>	
An Implementation of Serial Interface Engine with Transceiver Using Verilog HDL .....	128
<i>Radha M, R. Karthika, A. Andrew Roobert, Vignesh. R, M. Philip Austin</i>	
Nonlinear Switching Structure-Based All-Optical Modulus-3 Counter .....	134
<i>K Sai Kamal Kumar, Sushanta Mahanty, Ajay Kumar, Nilisha Kumari, Sushant Shekhar, Ojasvita Wagisha</i>	
Modified Zeta Based PV System for EV Battery Charging .....	139
<i>Siddheswar Kar, A. Wisemin Lins, Kavim K. S., Sharda Patwa, G. W. Martin, D. Karthikeyan</i>	
IoT-Based Heart Rate Monitoring System Designed for Pilots .....	145
<i>Nihil Muralikumar, Neeraja Ramanan, M. Pallikonda Rajasekaran, S. Kalimuthukumar</i>	
An Improved Gain S-Band Edge Fed Rectangular Patch Antenna for Weather Radar Applications .....	151
<i>Thilagaraj M, Arun Francis G, Sathya R, Kottaimalai R</i>	
Performance Analysis of an Electric Vehicle Battery Using Real-Time Drive Cycles.....	158
<i>Nishanthi J, Charles Raja S, Sivakumar N, Arun Mozhi S</i>	
Influence of Auxiliary Trip Relays and Battery Ground Faults on Power System Protection Security.....	164
<i>Pankaj Kumar Jha, M. S. Hada, Randhir Singh</i>	
Sign Language Classification with MediaPipe Hand Landmarks .....	171
<i>R. Saravanan, S. Veluchamy</i>	

Prediction of State of Charge (SOC) of Electric Vehicle (EV) Batteries Using Machine Learning Technique .....	177
<i>Selva Vengatesh M, Nishanthi J, Charles Raja S, Arul Jeyaraj K</i>	
FFT-FCA Based Inductive WPT System for Effective Coupling with High Air-Gap on EVs Charging Applications .....	183
<i>N. Sivakumar, S. Charles Raja, S. Arun Mozhi, J. Nishanthi, M. Geethanjali</i>	
Harmonic Impact Assessment for EV Charging Stations Deployment in the Distribution System.....	189
<i>Kavitha. D, Preetha. A, Nagavi. K</i>	
A Novel Back to Back Topology with Asymmetric Nine Switch Converters for Hybrid Power Systems Using Volatile Power Perceptive Technique.....	195
<i>S. Suba, R. Uthirasamy, P. C. Sivakumar, M. Dinesh</i>	
Intelligent Energy Transfer and Node Localization in the Internet of Things Using Deep Reinforcement Learning .....	201
<i>N Vinothini, S. Aishwarya, D. Kiruthika, G. Ananthi</i>	
Detection of Data Integrity Attack in Cyber Physical Power System Using Data-Driven Method .....	206
<i>G. Y. Sree Varshini, S. Latha</i>	
An Extensive Investigation on Blockchain Integrated Tumor Segmentation Approaches on Magnetic Resonance Brain Images .....	214
<i>Mathankumar K, Sumathi R, Kottaimalai R</i>	
Advanced Control Strategies for Servo Motors: Analysis of PID, FUZZY-PID and MPC with Cuk Converter Integration.....	221
<i>Boobalan Karthick A, Vetri Selvan G K, Julius Fusic S, Ramesh H</i>	
Energy Enhancement in a Packed-Bed Cross- Flow Humidifier.....	227
<i>K. Srihar, R. Venkatesan, R. Saravanan, R. Srinivasan</i>	
Windmill Pitch Prediction and Error Correction with Adaptive Control and Current Generation Analysis Using Data Analysis .....	233
<i>M. S. Minu, Rohit Suryaa S, Jovan Titus J, Sharan S</i>	
Photocatalytic Activity of Sonochemically Synthesized GO-Ag Nanocomposite.....	239
<i>Sakthi P, Kiruthika S</i>	
Design and Implementation of Smart Internet-Based Real-Time Control of Rover with Artificial Intelligence .....	243
<i>Ruba M, Deebika Sri V, Girinath V P, Ponkarthika M, Santhini C, Sakthi Priya V, Hemalatha R</i>	
Improving Breast Cancer Detection in Mammogram Images Using Moth Flame Algorithm Optimized Convolutional Neural Network.....	248
<i>M. Sarathkumar, K. S. Dhanalakshmi, P. Rajkumar</i>	
Sentimental Analysis Using Deep Learning Models .....	253
<i>Bhuvaneshwaran A, Amitha K, Bhavya A, Kamali S, Karishma R, C. Deisy, Sridevi S</i>	
Enhancing Performance of Cs <sub>0.5</sub> FA <sub>0.5</sub> PbI <sub>3</sub> -PSK Based Cells Through Modelling of Thickness and Defects.....	259
<i>Aniket Verma, Nikhil Shrivastav, Jaya Madan</i>	

Impurity Monitoring Using IOT .....	263
<i>Sarathkumar D, Srinivasan Murugesan, P Sukumar, Raymon Antony Raj, Sampath Kumar Venkatachary, Leo John Baptist Andrews, Dishore Shunmugham Vanaja</i>	
Development of Cybersecurity Systems Based on Machine Learning and Deep Learning Algorithms for Industrial Control Systems.....	268
<i>Leo John Baptist Andrews, Janani Selvam, Divya Midhun Chakkaravarthy, Sarathkumar D, Raymon Antony Raj, Vignesh. R</i>	
Fault Diagnosis in Transmission System Using Wavelet, RBFNN, LM-BPNN: A Comparative Study.....	274
<i>Kavitha D, Kamalika S</i>	
Automatic Traffic Control in Hilly Areas .....	279
<i>R. Kaviya, A. Sherine Joy, G. Sivasankar</i>	
Enhancing Performance of Methyl-Benzoate-PSK Based Cells Through Device Simulations .....	285
<i>Aniket Verma, Nikhil Shrivastav, Jaya Madan</i>	
Optimizing System Costs in Local Electricity Market Through Peer-To-Peer Energy Trading: Impact of Photovoltaic and Battery Storage Adoption .....	289
<i>Pratik Mochi, Kartik S. Pandya, Joao Soares, Ricardo Faia</i>	
Real Time PV Fault Detection in Solar PV Using Ensemble Learning Algorithm.....	295
<i>R. Priyadarshini, P. S. Manoharan, R. Kaushika, M. Muthuramalingam, P. Deepamangai, A. Ravi</i>	
The Evolution of Emotion Recognition in Speech: A Deep Learning Perspective.....	300
<i>Manolekshmi. I, M A Mukunthan</i>	
Hybrid PSO-GWO Design for a Grid-Connected Desalination Facility Powered by Renewable Energy Sources.....	306
<i>N. Nandakumar, V. A. Tibbie Pon Symon</i>	
PLC Based Automatic Paper Cutting Machine.....	313
<i>Vidhyalakshmi P, Sasireka M, Barathkumaran K S, Anuritha K V, Harisankar K</i>	
Control Strategy for Fuel Cell-Based Quasi Z-Source Inverter.....	317
<i>A. Angelin Nithya Shiny, P. S. Manoharan, P. Deepamangai, J. Nivedita, M. Bhavani, J. Vijayanand</i>	
Case Study on Integrating Legacy Devices in Industry 4.0 Framework Using OPC UA.....	323
<i>Ramesh H, S Julius Fusic, Jeshuran Cornelius K S R, Sreenidhikalam M, Aishwarya M</i>	
Investigation of Data Inaccuracies in the Database of the Solar Photovoltaic Monitoring System.....	329
<i>D. Sneha Charis, P. M. Devie, P. S. Manoharan, N. Usha, J. Vishnupriyan, N. Kumarasabapathy</i>	
Maximizing Solar Energy Output: A Comparative Analysis of MPPT Strategies for Partially Shaded PV Systems .....	335
<i>Leelavathi M, Suresh Kumar V, Devi B</i>	
Innovations in Battery Technologies of Electric Vehicle: A Review .....	342
<i>B. Devi, V. Suresh Kumar, M. Leelavathi</i>	

Enhancing Performance and Energy Efficiency of Diesel-Induction Generator System Under Linear and Nonlinear Load Conditions.....	347
<i>Sivakumar P, Ron Carter Sb, Jai Sreedhar G, Jainam S Mardia, Lokesh Kb, A Aswini</i>	
Modeling of Priority-Based Decentralized Hierarchical Energy Trading System: An Initiative Towards C2C Trading.....	352
<i>A. C. Vishnu Dharssini, S. Charles Raja, S Parameswari, V Suresh Kumar, M Dinesh Kanna</i>	
An Investigation on Static Reconfiguration of Solar Photovoltaic Panels by Adopting Arithmetic Array Modelling.....	358
<i>J. Dani Abraham, S. Charles Raja, A. C. Vishnu Dharssini, S. Arockia Edwin Xavier, D. Prince Winston</i>	
An Improved Octet Itoh-Tsujii Algorithm for FPGA Platforms.....	364
<i>A. Sanjana, V. R Venkatasubramani, S. Rajaram, M. Kalaiarasi, M. S. K. Manikandan, V. Vinoth Thyagarajan</i>	
Analysis of Mineral Oil and Natural Ester Properties Affected by Antioxidants in Accelerated Aging Conditions .....	369
<i>Ajumon Somasekharan Pillai, J. Arul Linsely</i>	
Impact of Copper Particles on Insulating Oil's Resistance to Breakdown at Combined AC and DC Voltage.....	373
<i>Ajumon Somasekharan Pillai, J. Arul Linsely</i>	
Deep Learning Based EV Battery Management System.....	377
<i>Arun Mozhi S, Charles Raja S, Nishanthi J, Sivakumar N</i>	
Smart Home Automation Using Discord Chat Bots.....	382
<i>R. Aadithya, M. Harish, S. Mohamed Faathih, P. S. Manoharan, M. Muthuramalingam, G. Kannayeram</i>	
Influence of Growth Temperature on Spray Pyrolytically Deposited Cobalt Ferrite Thin Films.....	386
<i>P. Sundararajaperumal, P. Velusamy, M. Mahendran</i>	
Improvement and Enhancement of Energy-Saving Induction Heaters.....	391
<i>P. Rathidevi, P. Sivakumar, P. Thirusenthil Kumaran, G. Sundararajan, D. Jenita</i>	
Modeling and Performance Analysis of the UPQC Integrated Power System Using an Innovative Controller Combination.....	398
<i>Ananthan Nagarajan, M V Suganyadevi, S Kuruseelan, K Harish, K Gnanaprabha, C Pearlina Kamalini</i>	
Augmentation of Coverage in IoT Using Licensed LPWAN .....	404
<i>R. Karthigaichelvi, B. Balakumar</i>	
Real Time Simulation of Microgrid Based EV Charging Stations Under Fault Condition .....	408
<i>Honnesh C S, Vimalraj M, J. Sreedevi</i>	
Machine Learning Approaches for the Detection and Classification of Leukemia from Histopathological Images.....	414
<i>S. Karthikeyan, M. Leeban Moses, N. J. Dhyaneswaran, M. Akash, P. Prasath</i>	
Non-Isolated Multiport Converter for Electric Vehicle Applications .....	420
<i>Reshma T. R, S. Arockiaedwinxavier, S. Charles Raja</i>	

Bidirectional Power Flow Grid-To-Vehicle & Vehicle-To-Grid (G2V&V2G) in Electric Vehicle.....	426
<i>B. Ashok Kumar, G. Shanmukasri, S. Senthilrani, S. Satheesh Kumar</i>	
A Review on Machine Learning Models for Breathing Pattern Analysis of Soldiers.....	431
<i>Kaleeswari P, Ramalakshmi R, Arunprasath Thiagarajan, Muthukumar Arunachalam, Kottaimalai Ramaraj, Thanga Raj M</i>	
Smart Entry System for College Using IoT and RFID.....	438
<i>Veera Anusuya, Ramani Vijay Chelvi, Bency Jesline, Maheswari</i>	
IoT Based Bottle Filling System Using PLC.....	444
<i>R. Sureshkumar, S. Suji Prasad, M. Thangatamilan, R. Bharath Karthikeyan, K. S Jagadeesh, E. Lalith Kumar</i>	
Fault Detection and Classification on Transmission Lines During Asymmetrical Faults Using Wavelet Transformation and Decision Tree Algorithm .....	449
<i>Suriya Priya G, Geethanjali M</i>	
IoT-Enabled Smart Grid Monitoring Enhanced with SEPIC Converter and ANN Based Maximum Power Point Tracking .....	454
<i>M. Nivedha, S. Titus</i>	
Machine Learning Infused Techno-Economic Evaluation of Commercial Building Hybrid Energy System.....	460
<i>V Suresh Kumar, S Parameswari, S. Charles Raja, A. C. Vishnu Dharsini</i>	
Artificial Intelligence-RNN Control of Double Fed Induction Generator-Based Wind Energy Conversion System.....	466
<i>E. Rajendran, R. Sridevi, N. Raghul Vallarasu</i>	
Advancing IoT Security with a Hybrid Deep Learning Model for Network Intrusion Detection .....	472
<i>Rigzen Norbu, Arun Kumar M, Ramanathan S, Nagendra Kumar D, Jigmet Dolkar, Subalakshmi Sujitha K</i>	
Design and Analysis of Felt Based UWB Resonator Antenna for Body Worn Applications.....	478
<i>Evangelin P S, T. Mary Neebha, A. Diana Andrushia</i>	
Design of Switched Z-Source Converter for Grid Tied PV with Hybrid Storage System.....	483
<i>R. Sridevi, E. Rajendran</i>	
Diagnosing Parkinson's Disease Using Voice Features Based on Deep Learning and Information Gain .....	489
<i>N. Ramya, S. Devi Suganya</i>	
Artificial Neural Network Based Power Quality Improvement for Grid Connected Wind Power System Using PMSG and SEPIC Converter .....	495
<i>E. Rajendran, V. Raji, Siddheswar Kar, Riyaz A Rahiman, Md Mujahid Irfan, D. Karthikeyan</i>	
Design and Development of Biogas Purifier .....	501
<i>R. Mouleeshwarappabu, T. Mrunalini, K. Surya, K. Sathyanandhan, S. P. Sri Priyangka, Ramya Chinnasamy</i>	
Classical-Quantum Computing Model with MobileNet for Precise Pest Classification .....	506
<i>T. Saranya, C. Deisy, S. Sridevi</i>	
Level Triggered Garbage Compressor Bin.....	511
<i>Sasireka M, Vidhyalakshmi P, Sakthivigneshwari M, Prakash R, Vishal C K</i>	



Chatbot: A Voice Based Virtual Assistant.....	515
<i>Ashok Kumar B, Rajeswari J, Senthilrani S, Abilashini M, Shivani N</i>	
Optimize 3D Printing Material Process Parameters: A Case on Regression and Neural Network .....	520
<i>J. Mohammed Azharudeen, Kamalakannan Kamalakannan, Umar Ahamed</i>	
Effect of Magnetic Field on Streamer Dynamics in Transformer Oil.....	525
<i>Mihir Bhatt, Praghnesh Bhatt</i>	
Cyclone Intensity Estimation Based on Deep - Learning Using Insat 3D IR Imagery.....	530
<i>Divya Vasantha Sena S, Sanjay B, Julius Fusic S, Hariprasad M</i>	
Energy Transfer Through Light Beam for EV Charging .....	536
<i>Sivakumar P, Jai Sreedhar G, Jainam S Mardia, Lokesh Kb</i>	
FEM Based Soft Robotic Gripper Design for Seaweed Farming .....	541
<i>S. Meenakshi, G. Prabhakar, N. Ayyanar, P. Nedumal Pugazhenth</i>	
An Efficient IoT Device for Chronic Kidney Disease Affected Patient Data Collection .....	546
<i>Radha M, Kalpana Murugan</i>	
Retinal Disease Diagnosis Reimagined: A Deep Transfer Learning and Multi-Scale Attention Network Algorithm for Precision Ophthalmology .....	551
<i>Ramanathan S, Arun Kumar M, Susmanth Srinivas A, Shanmukha Naveen K, Senthilkumar C</i>	
Contrastive Analysis of Path Planning Algorithms for Mobile Robots-A Case Study .....	557
<i>J. S. Suriya Pavithra, A. Harini Karthika, Julius Fusic S, P. Krishnapriya</i>	
Efficient AI-Powered Audio-To-Text Transcription: A GUI-Enhanced Stack with EXE Build for Innovation in Communications .....	563
<i>B. Subbulakshmi, M. Nirmala Devi, M. Sivakumar, Varshini Sri A, Varsha S K, Kaviya Meena T</i>	
A Smart Maximum Power Point Tracker Solar Charge Controller.....	570
<i>C. Pearline Kamalini, M. V. Suganyadevi, Paul Roger, U. P. Anush Aravind</i>	
Height-Based Sorting Automation: PLC and Factory I/O Integration.....	575
<i>M. Thangatamilan, S. J. Suji Prasad, C. Sagana, G. Karthik, T. Dineshkumar, M. S. Dharun</i>	
Machine Learning Based Parametric Fault Diagnosis of Cuk Converter .....	580
<i>RV Prathiba, M. Saravanan</i>	
Smart Automation of Fertilizer Ratio Mixer Using PLC.....	585
<i>Lizzy Nesa Bagyam. M, Jegan. S, Rajasekar. S, Vembu. T, Vishwabarathi. S</i>	
Dynamic Operating Envelope for Cost Optimization in Local Peer-To-Peer Energy Market.....	590
<i>Pratik Mochi, Kartik S. Pandya</i>	
Design of Mini Spiral Turbine for Optimum Power Generation in Water Supply.....	596
<i>T. Kalavathidevi, R. Mouleeshuwarappabhu, S. Umadevi, V. K. Shubhashree, K. Srihariramana, T. G. Thilochan</i>	
A Comprehensive Review of Optimal Sizing Approaches for Battery Storage Technology.....	602
<i>Shanmuga Kani. J, Ulagammai. M</i>	
Protection of Over Current Relay in Microgrid Protection Using ETAP .....	608
<i>M. Nanthini Kumara, M. Meenakshi Devi, M. Geethanjali, S. Vimala Devi</i>	

Renewable Energy Powered Two Stage DC-DC Boost Converter for Electric Vehicle Application .....	614
<i>S Vimala Devi, M Geethanjali, V Suganya, M Meenakshi Devi</i>	
Banana Ripeness Classification Via Thermal Imaging with Transfer Learning .....	619
<i>Kurinji K, Methira R, Senthilarasi M, Mohamed Mansoor Roomi S</i>	
Practical Applicability of Simulations in Clustered Microgrid System Design: A Comparative Analysis with Real World Data .....	624
<i>Raveen Sanjaya De Silva, Reshan H. Perera, Reshan H. Perera, Nayanajith Kurukulasooirya, K. T. M. U. Hemapala, O. V. Gnana Swathika</i>	
Air Canvas: Expressing Creativity in the Real World with OpenCV and Python .....	630
<i>Shanthalaksmi Revathy J, Suresh A, Sanjith Bala B</i>	
Deep Learning-Based Women Hairstyle Classification Through Inception Resnet-101 .....	635
<i>Faazelah Mohamed Farook, S. Mohamed Mansoor Roomi, A. Sasithra Devi, R. B. Jayanthi Rajee</i>	
Work Order Based Production System for Punching Machine Annunciator .....	641
<i>Suji Prasad S J, Subasri R, Thangatamilan M, Deepika D, Gobish N, Harish K</i>	
Comprehensive Review on the Recent Trends in Solar Photo Voltaic Distillation.....	646
<i>Saftata Sawadogo, Ravi Samikannu, Karpagam R, Priya N, N P G Bhavani, Abid Yahya</i>	
Measuring the Volume of Spherical Tank Using Load Cell .....	651
<i>Venkatesan B, Suji Prasad S J, Aswanth S, Kiruthika G, Kirubakaran T, Maithra S</i>	
Disease Detection Based on Iris Recognition.....	656
<i>Shanthalaksmi Revathy J, Yogeshwaran R, Vishal S K</i>	
Efficient Load Forecasting in Educational Laboratory Facilites: An ARIMA and K-Means Approach .....	661
<i>Kavitha D, Kanishka D, Dharinee K</i>	
Enhancing Human Activity Recognition: An Exploration of Machine Learning Models and Explainable AI Approaches for Feature Contribution Analysis.....	667
<i>A. R. Kaushik, K. S. Gurucharan, S. Padmavathi</i>	
Hand Gesture Recognition System Using Transfer Learning.....	673
<i>Srilakshmi Ravali M, S. Mohamed Mansoor Roomi, B. Sathyabama, M. Senthilarasi</i>	
Synthesis of Bio Sponge for Diabetic Foot Ulcer.....	678
<i>P. Nedumal Pugazhenthii, Vijayakumar K, Aishwarya Shree B, Akshaya V, Deepika K, Anbumani M</i>	
Implementation of Solar Rooftop-Experience in India.....	682
<i>Ishaan C Saxena, Meikandasivam S</i>	
AI-Powered Driver Behavior Prediction, Drunk Driving Prevention, Accident Detection, and Insurance Integration .....	688
<i>Nandini G. Iyer, Arulmozhi M, Sivakumar P, S. Sudharsan, Jeny Sophia S, Kavitha R</i>	
Keylogger Development: Technical Aspects, Ethical Considerations, and Mitigation Strategies.....	693
<i>Nongmeikapam Thoiba Singh, Aditya Shukla, Ajay Nagar, Kartavya Arya, Ashwani Tiwari, Yash Varun</i>	

Novel DC to DC Boost Integrated BIFRED Converter for Type 2 MPPT Fuzzy Based PV/EV Application .....	698
<i>R. Tharwin Kumar, C. Christofer Asir Rajan</i>	
Energy Efficient EV Charger Using Bridgeless Canonical Converter with Improved Power Quality .....	704
<i>Muhammed Alaudeen Ashiq M, Jessi Sahaya Shanthi L, Sivasankar G</i>	
Smart Image Recognition System for the Visually Impaired People.....	710
<i>Ganesh Khekare, Midhunchakkravarthy</i>	
Comparative Performance Analysis of Machine Learning Classifiers on Weather Data.....	716
<i>J. Dhanalakshmi, N. Ayyanathan, A. Prabhu Chakkaravarthy</i>	
Cascaded ANFIS MPPT Algorithm Based Non Isolated ZETA Converter for PV/EV Applications .....	722
<i>R. Tharwin Kumar, C. Christofer Asir Rajan</i>	
Spurious Current-Induced Breaker Failure Protection in the 220kV DMT Bus Switching Scheme– a Case Study from Indian Power Sector.....	728
<i>Pankaj Kumar Jha, M. S. Hada, Vivek Kumar</i>	
Design of Optimized PID Controller for Switched Reluctance Generator in WECS Applications.....	734
<i>C. Fabbina, T. Muthamizhan, Md Mujahid Irfan, G. W. Martin, M. Shadhik, V. Balaji</i>	
Simulation Study of a Meta Structured Solar Cell .....	740
<i>Ahathiyan G S, H. Victor Du John</i>	
IoT Based Power Quality Monitoring in Smart Grid.....	744
<i>Devaki M, Shunmugalatha A, Saranya R</i>	
Evaluation of 5% Known and 95% Unknown Matter in Inner and Outer Universe Using Quantum Computing, Artificial Intelligence and Vedic Scripture.....	749
<i>Sachin Sharma, Abhiraj Gautam, Ranu Tyagi</i>	
Potential Use of Cathode Ray Tube as an Abrasive Particle in Abrasive Jet Machine .....	755
<i>Thamizhvel R, Manikandan A, Praveen Kumar S, Sivasankaran S</i>	
Efficient Residual LSTM-Based Short Duration Polarization Current Forecasting Technique of Transformer .....	761
<i>Aniket Vatsa, Ananda Shankar Hati, Mayank Sharma</i>	
Zero Sequence Filtering and Its Impact on Low Impedance Differential Protection of Shunt Reactors.....	766
<i>Pankaj Kumar Jha, Naveen Gupta, Ankit Kumar</i>	
A Comprehensive Review of UPFC Techniques for Improving Power Quality.....	771
<i>Vinay Kumar. Polishetty, G. Balamurugan, Kartigeyan Jayaraman</i>	
ELM Approaches for Product Based Ranking and Scheduling Models .....	777
<i>S. Abirami, K. Amsaveni, S. Kayathri</i>	
Improved Z-Source DC-DC Converter for PMBLDC Based EV.....	782
<i>B. Kavya Santhoshi, J. Reegan, R. Venkatesh, Kavin K. S., P. Subha Karuvelam, S. Sivarajan</i>	
Optimized Feature Selection for Brain Cancer Detection .....	788
<i>S. Vinurajkumar, J. Sofia Bobby, Deepa Beeta Thiyam, M. Rajasekar</i>	

Feature Fusion Tactics in Gastrointestinal Endoscopic Image Retrieval Using Deep Features.....	794
<i>Mathana Gopal Arulsamy, Pallikonda Rajasekaran Murugan, Arun Prasath Thiyagarajan, Kottaimalai Ramaraj</i>	
Developing a Transcutaneous Electrical Nerve Stimulation Device for Regulating Hormones in PCOS Patients .....	800
<i>T Arunprasath, Sakthivel Sankaran, Kawyaa Krishnan, Neeraja Ramanan, C Kruthika Reshmi, S Rajalakshmi, M Pallikonda Rajasekaran, Kottaimalai Ramaraj, Sundar M</i>	
Edge-Driven Biometrics and Facial Recognition for Virtual Assistant .....	805
<i>Ramalingam H M, Mohamed Fazil, Pallikonda Rajasekaran M, Kottaimalai R, Vishnuvarthanan G, Arunprasath T</i>	
Effect of Solid-Fluid Interaction Parameter on Wettability of Surfaces with Irregular Triangular Micropillars Using Lattice Boltzmann Method .....	812
<i>Ganesh Sahadeo Meshram, Gloria Biswal, Deepak Deshmukh</i>	
Blockchain Based Authentication and Privacy Preservation in IoMT Devices .....	818
<i>Sakshi Rajvanshi, Sachin Sharma</i>	
Bat Optimized CNN for Skin Cancer Detection Using Deep Learning Approach .....	824
<i>S. Sathish, J. Shanmugapriyan, N. Malathy, K. Shruthi</i>	
Hybrid Fuzzy Assisted RNN Algorithm for Diabetic Retinopathy Identification .....	829
<i>P. Sivaprakash, G. Gifta Jerith, H. Packiaraj, R. A. Manikandan, T. Thanish Kumar, S. Ashok</i>	
Smart Trash Credit Segregator .....	835
<i>K. Shreya, Hariharan Pitchiah, Swetha Valli, M. Sowindariya, M. Vignesh, P. S. Manoharan</i>	

**Author Index**