

2024 IEEE 3rd International Conference on Electrical Power and Energy Systems (ICEPES 2024)

**Bhopal, India
21-22 June 2024**

Pages 1-431



**IEEE Catalog Number: CFP24TPF-POD
ISBN: 979-8-3503-9073-5**

**Copyright © 2024 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:	CFP24TPF-POD
ISBN (Print-On-Demand):	979-8-3503-9073-5
ISBN (Online):	979-8-3503-9072-8

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Detection of Power System Events Using Bagged Tree Classifier.....	1
<i>Mayur Panchal, Soumesh Chatterjee, Rupali Brahmachary, Shanker D. Godwal, Akhilesh A. Nimje</i>	
Design and Implementation of a Circuit for Storing Voltage WaveShape Data with 6 kHz Sampling Frequency	6
<i>Md. Tausif Jafar, Md. Jahedul Islam, Yasir Arafat</i>	
Analysis of Energy Quality Issues in the Solar Energy System	12
<i>Ishita Uniyal, Shweta Tiwari, Vishal, Shiv Ashish Dhondiyal</i>	
Energy Loss Reduction by Capacitor Placement Integrated with EVCS in Distribution Systems	16
<i>B Vinod Kumar, Aneesa Farhan M A</i>	
Design and Performance Analysis of Utility Scale-Grid Connected Hybrid Wind-Solar Plant in an Existing Operational Wind Farm in India.....	22
<i>Kaliappan P, Selvan M P</i>	
Investigation on Protection Schemes of an Existing Wind Farm in India	28
<i>Kaliappan P, Selvan M P, Meera K S</i>	
State-Of-The-Art Analysis of Single Electron Transistor.....	34
<i>Swastik Kumar Sahu, Kaushik Mazumdar</i>	
A Technical Discussion of EV Charging System, Challenges & Future Trends.....	40
<i>Vishwajeet Verma, Seema Saxena</i>	
Proficiency Analysis of Unscented Kalman Filter for Bad Data Detection During State Estimation	47
<i>Vikas Bhalla, Ganesh P. Prajapat</i>	
A Graphical Fault Location Prediction Using Least Squares Method for DC Microgrid.....	52
<i>Piya Roy, Debashis Chatterjee</i>	
A Soft-Switched ZVS-ZCS Boost Converter Design and Analysis.....	56
<i>Mirza Jawad Baig, Rishi Kumar Singh</i>	
Solving Economic Load Dispatch with Integrated Thermal, Solar, and Battery Power Plants Using the Boosted Sooty Tern Optimization Algorithm	60
<i>Sudip Kumar Ghorui, Koustav Dasgupta, Sakti Prasad Ghoshal</i>	
Speed Estimation of DC Series Motor by Constant Gain Extended Kalman Filter.....	66
<i>Biswajit Halder, Prakash Chakraborty, Prithwiraj Das</i>	
Modeling and Analysis of Solid-State Transformer Using MATLAB Simulink	72
<i>S. Uttar Kumar, Deepak Agrawal, Rakeshwri Agrawal, Alok Kumar</i>	
Class-E Power Amplifier Design for Wireless Power Transfer	77
<i>Kunwar Aditya, Sushan Pradhan, Amrit Raj</i>	
Accurate State of Charge Estimation of Lithium-Ion Cell Using Unscented Kalman Filter	82
<i>Amrit Raj, Kunwar Aditya</i>	

CNNs Model for Cyber Threat Detection in Advanced Metering Infrastructure for Securing the Smart Grid	89
<i>Priyamvada Chandel</i>	
Hand Gesture-Driven Assistive Bed Position Control System and Health Monitoring for Enhanced Patient Comfort and Accessibility	95
<i>Pavanalaxmi, Navyashri R Modankap, Ashwitha H, Sinchana</i>	
Design of Energy Efficient Power Converter Topologies for Electric Vehicles and Their Charging	101
<i>M. Lakshmi Swarupa, D. Obulesu</i>	
Performance Improvement of Solar Photovoltaic Module Using Various Types of Reflectors.....	107
<i>S. Prathiba, L. Ramya Hyacinth, S. Indhumathi, A. R. Danila Shirly, Bhuvanesh Ananthan, S. Nandhu Krishna</i>	
Modeling of Power Factor Correction for On-Board E-Vehicle Charger	112
<i>S. Prathiba, M. Geetha, A. Bhuvanesh, A. R. Danila Shirly, J. Leema Rose, M. Balakrishnan</i>	
The Impact of Blockchain and AI in the Healthcare	118
<i>Ramya Thatikonda, M. Kempanna, Reshmi Tatikonda, A. Bhuvanesh</i>	
The Significance of the Energy Storage Device in the Optimal Frequency Management of a Hybrid Power System Comprising Thermal and Renewable Sources	124
<i>Mohammad Adnan Ali, Sonali Nandanwar, Hiramani Shukla</i>	
Analysis of Improved Phase Shift PWM with Delta Strategy for Single Phase Cascaded H-Bridge Multilevel Inverter.....	128
<i>Rohith Balaji Jonnala, Usha Sri Kummari, N. V. Navya Sree Vanapamula</i>	
Development of a Digital Meter for Actual Fuel Consumption with GPS Location for Security in Vehicles Using IOT	134
<i>Sachin P Jadhav, Aabid C Mulla, Yash Tanparpale, Nagesh Manjulkar, Siddheshwar Puri, Nayan Hanawate</i>	
Impact of EV Chargers on the Power Distribution Network - A Case Study	140
<i>Tulika Bhattacharjee, M. Rajeshwari, K. Jeykishan Kumar</i>	
Non-Cascading Structure for Wide Duty Cycle in Forward Converter	146
<i>Sunil Kumar, Apoorv</i>	
Proof and Derivation of Explicit Rational Polynomial Solution to the Voltage Distribution Problem Along the Suspension Insulator String	151
<i>Alexander S. Carrascal</i>	
Development of Robust Multi-Objective Mayfly Optimization Method for Passive Power Filter Design to Improve Power Quality	157
<i>Pavankumar Daramukkala, Kanungo Barada Mohanty</i>	
Optimization of Frequency Regulation in Integrated Thermal and Solar Power Systems	163
<i>Anukirti Srivastava, Shiwani Rai, Shashank Shekhar, Anand, Renuka P Mishra</i>	
Purchase Prediction of Electrical Vehicle Using TPB Analysis.....	169
<i>Mruga Mehta, Vipul Patel</i>	
Impact of NL and EV Penetration on IEEE 13 Node Test Feeder and q-MSZS BESS Charger	173
<i>Anish Tiwari, Anandita Chowdhury</i>	

Quasi Z Source Converter with ZVT Based Soft Switching	178
<i>Sreehari P B, Ankur Singh Rana</i>	
Design of FET Based Electronic Power Path Controller for Lithium Battery Applications.....	184
<i>Emre Dincer, Ali Bekir Yildiz</i>	
Fault Analysis in Transmission System in Consideration with Different Types of DG's.....	190
<i>T Koteswara Rao, B Vinodh Kumar, Ankur Singh Rana, Aneesa Farhan M A, Jagu Sudarshan Reddy, Y Veera Raghava</i>	
Implementation of Instantaneous P-Q Theory to Improve Power Quality by Shunt Active Power Filter for Non-Linear Loads	196
<i>S. Sampath Kumar, K. Arya, K. R. M. Vijaya Chandrakala, Kannan Pauliah Nadar</i>	
Modified Nodal Analysis Based Modeling of DC-DC SEPIC Converter with Coupled Inductors.....	202
<i>Ahmet Hilmi Tuna Öztürk, Ali Bekir Yildiz</i>	
Enhancing Diabetes Management: A Machine Learning-Enabled IoT Framework for Early Detection	206
<i>Deepansh Kulshrestha, Aditi Singh, Riddhima Chaturvedi, Abhinav Tiwari, Mohit Garg, Radhika Yadav</i>	
Dynamic Characteristic Analysis of Transitioning Radial to Axial Flux Motors in Electric Three-Wheeler Application.....	212
<i>Monish I, Carunaiselvane C, Malarselvam V</i>	
Confirmatory Check of 1 kW BLDC Motor for Use in Electric Vehicle Application	219
<i>Purushothaman J, Carunaiselvane C, Malarselvam V</i>	
Optimizing Multilevel Inverter Performance Through Comprehensive Analysis of Carrier-Based Pulse Width Modulation Techniques	225
<i>Nikunj D. Shyara, Nasreenbanu Nazirbhai Mansoori, Mahesh L. Dhola, Dhaval Yogeshbhai Raval</i>	
Optimization of Cogging Torque in Radial Flux Brushless DC Motor Using a Novel Stator Side Approach	231
<i>Tanuj Jhankal, Amit N. Patel</i>	
Response Analysis of a DC Motor for Electric Vehicular Applications	237
<i>Uditveer Singh Rajput, Vinay Thapar, Bhoopendra Singh</i>	
Modeling and Implementation of Autorecloser in Radial Power System and Microgrid.....	243
<i>Jigneshkumar P. Desai, Richa Dubey, Ankur Desai</i>	
Power and Stability Optimization of High Performance SRAM Cell Using Jaya Algorithms for Low Power Drone	248
<i>Pramod Kumar Patel, Neeraj Agrawal, Asish Raghuwanshi, Rajesh Kumar Nema</i>	
An Efficient Protection Scheme for High Impedance Fault Diagnosis in Micro Grid Using Machine Learning	254
<i>Saurabh Gupta, Sanatan Kumar, Ravi Ranjan Kumar</i>	
Design and Analysis of QDR-SRAM Using FIFO for Multiple False Targets.....	258
<i>Manish Pillai, Shubham Raut, Pallabi Sarkar, Ankur Beohar, Kavita Khare</i>	

Analysis of Optimization on Sparse Matrix Vector Multiplication Model Application in Digital Signal Processing	261
<i>Alden C Shaji, Kavita Khare</i>	
Simulation Based Actuator Model Creation and Commissioning on Virtual Test Bed	268
<i>Sarthak Singh, R. K. Nema, Pankaj Swarnkar, Sunil Kumar Gautam, Md Kaisar Azam Ansar, Saurabh Shukla</i>	
Differential Protection of Active Distribution Network in the Presence of Inverter Interfaced Distributed Generation	274
<i>M Ummar Farook, Aneesa Farhan M A, Salum Mwamini Ramadhani</i>	
Overload Alleviation Using Natural Exponent Inertia Weight Particle Swarm Optimization	280
<i>Sweta Lall, Sonali Nandanwar, N. P. Patidar</i>	
Intelligent Adaptive Systems and Methods Thereof for Household Energy Control and Management	285
<i>Shiva Ram Krishna, Rakesh Kumar, Amit Gaurav, Nagendra Singh, Mamta Sharma, Shekh Kulsum Almas</i>	
A Step-Up Reduced Device Count 31-Level Switched Capacitor Multilevel Inverter with Asymmetric DC Sources	288
<i>Sudip Nandi, Tapas Roy, Ranjeeta Patel, Banishree Mishra, Alivarani Mohapatra</i>	
Assortment and Statistical Investigation of Various Methods Adopted in Insulating Oil.....	295
<i>Christal Saji K, Srinivasan M, Sarathkumar D, Raymon Antony Raj</i>	
Comparative Study of Coil Architectures for Wireless Power Transfer	300
<i>Tushar Debnath, Suman Majumder</i>	
Detection and Study of HIF with the Help of Discrete Wavelet Transform in Distribution Lines	305
<i>Kirti Pathak, Suresh Babu Perli</i>	
Single Ended Fault Locator Using Fault Current Phase Angle.....	310
<i>Vasavi Muli, Suresh Babu Perli</i>	
Pilot Protection Scheme for Photovoltaic Based Distribution Network by Using High Frequency Superimposed Network Approach.....	316
<i>Madhur Mishra, Suresh Babu Perli</i>	
Decentralized Coordination of Electric Vehicle Charging in Microgrids Using Game Theory	322
<i>B Amrutha Raju, P Krishna Mohan Reddy, Sandeep Vuddanti</i>	
Replacing the Suction Fan to Reduce Power Consumption in Spinning Mill	327
<i>Srinivasan Murugesan, Manju P, Sarathkumar D, Raymon Antony Raj, Madeshwaran C, Pavithra P, Boopalan V C, Dharanidharan V</i>	
Modelling and Analysis of WPT System for Bidirectional On-Board EV Charging.....	333
<i>Gutasingh Palvi, Anuprita Mishra</i>	
WPT System for Bidirectional On-Board Electric Vehicle Charging-A Review	338
<i>Prakash Narayan Tiwari, Kaushal Prasad Tiwari, Vishal Rathore, Dhananjay Kumar</i>	
Effect of Supply Harmonics on Measurement of 3rd Harmonic Resistive Leakage Current of Metal Oxide Surge Arrester	345
<i>Jay B. Gondaliya, Hemang Tailor, Umesh Soni, Anil S. Khopkar</i>	

Blockchain and Cloud Computing in Healthcare: A Critical Analysis and Future Prospects.....	350
<i>Shruti Nimkar, Shivani Makhijani</i>	
Enhancing Power System Stability and Reliability: Integrating Photovoltaic Systems into Electrical Grids.....	355
<i>Sultan Hamad Alsaiani, Nithiyananthan Kannan, Youssef A. Mobarak, Alhababi Abdulsatar</i>	
Cost Optimization of EV Charging Station Integrated with Solar PV.....	360
<i>Prabhat Srivastava, Alok Agrawal, Prerna Gaur</i>	
YOLO for Medical Object Detection (2018–2024).....	366
<i>Akanksha Soni, Avinash Rai</i>	
Performance Evaluation of Zeta, Sepic and Without Converter Configurations for PFC Based BLDC Motor Drives.....	373
<i>Sunidhi Jain, Suresh Kumar Gawre, Amit Oiha</i>	
Quality of Power Improved by DSTATCOM for 3- ϕ Grid-Tied Solar Photo-Voltaic System	378
<i>Rahul Kumar, Mukesh Kirar</i>	
A Fuel-Cell Driven Brushless-Direct Current Electric Motor Drive for Green Transport Applications.....	384
<i>Tanmay Shukla, Aftab Ahmed Ansari, Neelam Mishra, Anwar Ahamed Ansari, N. P Patidar, Shyam Kumar Barode</i>	
Energy Efficient Routing Technique in Wireless Sensor Network Using Hybrid Approach.....	389
<i>Ashutosh Kumar Gupta, Niharika Anand</i>	
Experimental Analysis of High Conductivity Solid-State Electrolyte Li ₇ La ₃ Zr ₂ O ₁₂ (LLZO) for Li-Ion Battery.....	395
<i>Rohit Anand, Ganesh Sahadeo Meshram, Pankaj Kumar</i>	
Comparison of Different Torque Calculation Methods in Direct Torque Control for Permanent-Magnet Synchronous Motors.....	401
<i>Ebubekir Bozkurt, Mehmet Polat, Ibrahim Çelik</i>	
Sustainable Future for India's Power Sector Through Smart Grid and Microgrid Initiatives.....	405
<i>Pratik Sarkar, Saibal Chatterjee, Rajeeb Dey</i>	
Modeling and Analysis of a Battery Management System for Electrical Vehicles.....	411
<i>Aayushi Singhai, Vallabh Bangar, Mukesh Kumar Kirar</i>	
Implementing the Power of Big Data Analytics	417
<i>Mayur Dandekar, Sukeshini Lote, Prajakta Dandekar</i>	
A Comprehensive Review on Wireless Communication and Networking Advances.....	422
<i>Prajakta Dandekar, Mayur Dandekar, Prasanna Phutane</i>	
Grounding Systems Transient with Frequency Dependent Soil Parameters: A Time Domain Approach	426
<i>Kaushal Pratap Sengar, Kandasamy Chandrasekaran</i>	
Leveraging Weather Parameters in Generative Adversarial Networks for Energy Consumption Prediction	432
<i>More Raju, Jella Komal Kumar, Kommana Supriya, Mallarapu Vasanthi</i>	

Comparative Analysis of Fuzzy and P&O Algorithms for SPV MPPT System	437
<i>Ratnesh Singh Bagri, Sanjeev Singh, Suresh Kumar Gawre</i>	
IoT in Healthcare: Applications & Challenges	442
<i>Aachal Inzole, Sandip Sonwane</i>	
Synthesis of Far Field Radiation Pattern of a Concentric Hexagonal Array Antenna Using Different Objective Functions.....	447
<i>Archisman Banerjee, Bitan Misra, Ayan Dutta</i>	
High Efficient Interleaved Synchronous Rectifier with Isolation Transformer for EV Charging.....	451
<i>Kavitha Kumari. K. S, Pranav. J., Joel John, Aswin Mohan</i>	
Multilevel Inverter Producing 21-Level Voltage with Focus on Device Count Reduction	456
<i>Uday Patel, Siddharthsingh K. Chauhan, P. N. Tekwani</i>	
Torque Ripple Assessment of Converter Topologies for Switched Reluctance Motor	462
<i>Ritika Asati, Deepak S. Bankar, Amit L. Nehete</i>	
Application of Various Supervised Machine Learning Techniques for Real Time Fault Detection in Power System.....	468
<i>Siddhant Pratap Singh, More Raju, N. P. Patidar</i>	
Machine Learning Based Pattern Recognition with HOG Features for Detection of Islanding	474
<i>Kumaresh Pal, Subhadip Goswami, Anshuman Bhuyan, Santanu Koley, Bidisha Bera, Sarmistha Basu</i>	
Islanding Detection Using Pattern Recognition by HOG Features with Ensemble Classifier.....	480
<i>Kumaresh Pal, Subhadip Goswami, Anshuman Bhuyan, Santanu Koley, Soumya Roy, Rishika Bhakat</i>	
Green Buildings Integrated with Solar Thermal Energy Systems in India– Concepts, Utilization and Potential.....	486
<i>Aakash Patel, Archana Soni, Prashant Baredar</i>	
Machine Learning-Based Space Risk Management: Asteroid and Solar Flare Prediction	491
<i>Aditi Baggu, Aditya Hedge, Harsh Morayya, Siri Ananya Yallapragada, Hirak Mazumdar</i>	
Efficient Placement of Distributed Generation for Loss Minimization Via PSO Optimization	497
<i>Aranya Gautam, Priyanka Paliwal, Anoop Arya</i>	
Development of Cost-Effective Nickel-Doped Molybdenum Disulfide as Counter Electrode for Dye-Sensitized Solar Cells	504
<i>Priyanka Gunasekaran, Duraisamy Kumaresan, Geetha N, R. Senthil Kumar</i>	
Enhancing Electrical Fault Detection in Transmission Lines Through Machine Learning	510
<i>Deepansh Kulshrestha, Vishal Chaudhary</i>	
Comparative Analysis of Hybrid GA-PSO and GWO-PSO MPPT Algorithm for Photovoltaic Systems.....	517
<i>R. Indumathi, S. A. Lakshmanan, Cheng Siong Chin</i>	
Classification of Power Transient Signals Using Probabilistic Neural Network.....	523
<i>Sonali Nandanwar, R. K. Kumawat, N. P. Patidar, Rajarammohanrao Chennu, Ritu Verma</i>	

Wireless Power Transfer Electric Vehicle Charger Using Solar Energy.....	529
<i>Pankaj Swarnkar, Nupur Prajapati, Ishika Brar, Deeksha Dewangan, Kunjali Verma, Shivangi Gupta, Yashika Pandey</i>	
Improved Impedance Based Parameter Free Fault Location Estimation Algorithm for Two Terminal Transmission Line Using Phasor Components.....	534
<i>Adharapurapu Hema Latha, Ravikumar Bhimasingu</i>	
Renewable Power Based Economic Power Dispatch Solution.....	540
<i>Khusboo Kumari, Subinoy Roy, Ashish Kumar Singhal, Khushboo Dhakde, Rajni Kumre, Sanjeev Kumar</i>	
Hybrid Deep Neural Network for Electric Vehicle State of Charge Estimation.....	549
<i>Onur Kadem, Hasibe Candan, Jongrae Kim</i>	
A Novel SVP Neural Fusion to Optimize Switching Losses and to Improve Steady State Performance in AC/DC Hybrid Microgrid	555
<i>Putchakayala Yanna Reddy, Lalit Chandra Saikia</i>	
Design and Investigation of Junctionless N ⁺ Pocket Doped Vertical-TFET with Binary Metal Alloy P _a Q _{1-a}	561
<i>Girish Wadhwa, Nishant Srivastava, Prashant Mani, Anchal Thakur</i>	
Enhancing Home Energy Use with Solar Panels and Battery Technology	567
<i>Alok Kumar, Ashish K. Singhal, Subinoy Roy, Mohit Kumar, Md Nadir, Namrata Talegaonkar</i>	
Optimal PMU Placement Using BAOA by Considering Variable Cost	571
<i>Tejaswi Algam, Anandita Chowdhury, Prasanta Kundu</i>	
Exploring the Potential of Silicon Carbide Nanowire Junctionless Field-Effect Transistors for Ultra-Scaled 5 nm Channel Length Applications.....	577
<i>Anchal Thakur, Aditya Kumar Singh Pundir, Nishant Shrivastava, Girish Wadhwa</i>	
Dynamic Optimization of Electric Vehicle Charging for Sustainable Power Grids Using Sine Hunter-Prey Optimization with GRUs	582
<i>Mohd Khizar Syed, Prakash Chandra Behera, P Joel Josephson, Shamim Ahmad Khan, Timur Kholmukhamedov, Ponni Valavan M</i>	
Comparative Analysis of Switched Reluctance Motor Drive with Different Sources for Electric Vehicle.....	588
<i>Tushar Suryavanshi, Savita Nema, R. K. Nema, Md Kaisar Azam Ansari, Sunil Kumar Gautam, Tanvi Deopujari</i>	
Advancements in Electric Spring Technology: Implications for Modern Power Systems	594
<i>Shantanu Mishra, Anuprita Mishra, Priyamvada Chandel, Rupesh Kumar Sharma</i>	
Enhanced Transient Stability of Grid Forming Inverter with Modified Active Power Loop During Symmetrical Voltage Sag.....	600
<i>Sunil Gajula, Ravikumar Bhimasingu</i>	
A Probabilistic Multi-Stage UFLS Framework Considering Distributed Generation with RoCoF Relays.....	606
<i>Sanjoy Debbarma, Kingshuk Roy, Siddhartha Deb Roy, Liza Debbarma</i>	
Performance and Analysis of Multilevel Inverter in Integrating Grid	612
<i>Trivendra Mahavar, Shilpi Tomar, Jitendra Kumar Tandekar, Anoop Arya</i>	

Design and Analysis of a GaSb Heterojunction Vertical TFET with Source Pocket for Work Function Engineering and Improved Analog Performance	617
<i>Girish Wadhwa, Nishant Srivastava, V. Bharath Sreenivasulu, Antonino Proto</i>	
Analysis of SiC and GaN Based Hybrid Switch for Different Switching Combinations	623
<i>B. Anudeep Kumar, Mohd Alam</i>	
Double Auction Mechanism Based Energy Trading in Blockchain Enabled Smart Microgrid	629
<i>Shyam Agarwal, Shailesh Kapoor, Amit Jain</i>	
Study of Neutral Heave Variation in Semi-Isotropically Designed Stewart Platform Manipulator Based Dual Axis Solar Tracker System	636
<i>Mayukh Nath Mishra, Biswajit Halder</i>	
Control of Hybrid Distributed Energy Resources with Storage Connected to Microgrid	642
<i>Saket Bihari, Anand Singh</i>	
Advancements in Mutual Impedance Feeding for Enhanced Performance in ITS-V2X Linear Arrays Antenna.....	647
<i>R Saravanakumar, P. Sathiyamurthi, Satish Khatak, Alamelu Alias Rajasree. S, Uma Kumari C R, Puneet Narayan</i>	
DC-DC Converter Control Using Adaptive Neuro-Fuzzy Inference System	653
<i>Musharraf Ali Saddriwala, Mohd Alam</i>	
Design and Analysis of Three Phase UPQC for Power Quality Improvement of Solar Connected Utility System.....	659
<i>Pravesh Kumar, Sweta Lall, Jyoti Bansal</i>	
Comprehensive Analysis of Solar-Powered Electric Carts.....	664
<i>Abhijeet Pagare, Sarthak Shewalkar, Supriya Yadav, Dipali Dhake</i>	
Synchrophasor Based Fault Location Identification in Radial Distribution Networks.....	674
<i>Aneesh Rajeev, D. R. Binu Ben Jose</i>	
Dynamic Fault Diagnosis in Wind Turbines: A GNN-LSTM Approach	678
<i>G V Ramesh Babu, Sagar Baburao Porlekar, H. Mohammed Ali, Veera Ankalu Vuyyuru, Mohammed Saleh Al Ansari, I Infant Raj</i>	
Stability Analysis of Four Switch Buck-Boost Converter Operating in Buck Mode by Lead Compensator.....	684
<i>Deepak Kumar, Om Hari Gupta</i>	
A Critical Review on the Future of Robotics in Manufacturing.....	689
<i>Neeraj Agarwal, U S Yadav, Gurjeet Singh, Rohit Kumar Singh, Padmakar Pachorkar, D K Gupta</i>	
Cost-Effective and Sustainable Microgrid System for Reliable Energy Supply in Remote and Rural Communities: A Case Study in Bhopal, Madhya Pradesh.....	694
<i>Shankar Prasad Ghosh, Sonali Nandanwar, G. K. Pandey</i>	
Smart Phone Operated Multipurpose Agricultural Robotic Vehicle	701
<i>Srinivasan Murugesan, Manju P, Sarathkumar D, Raymon Antony Raj, Madeshwaran C, Pavithra P, Boopalan V C, Dharanidharan V</i>	
A Review Paper on Tracking MPP Using Hybridization of P&O and FLC	708
<i>Tejaswani Illuru, Jatoth Rajender, Manisha Dubey</i>	

Modeling and Simulation of Hybrid PV-Wind-Battery Stand-Alone Generation System.....	714
<i>Tanvi Deopujari, R. K. Nema, Savita Nema, Md Kaisar Azam Ansari, Sunil Kumar Gautam, Tushar Suryavanshi</i>	
TS-Fuzzy Controllers Based Grid Connected Hybrid Wind-PV-Battery Power Generation System	720
<i>Abhishek Pratap Singh, Yogendra Kumar</i>	
Design Optimization and Analysis of Rectangular Conductors Effects on Output Characteristics of Electric Vehicle.....	726
<i>Malarselvam V, Carunaiselvane C</i>	
AI-Powered Secure Decentralized Energy Transactions in Smart Grids: Enhancing Security and Efficiency	732
<i>Yousef Methkal Abd Algani, Vuda Sreenivasa Rao, R Saravanakumar</i>	
An Adaptive Approach for Protecting Transmission Line Connecting Converter-Interfaced Solar Plants	737
<i>Shajul Dinesh A, Deepak M</i>	
Leadership and Gender Equality in Energy Industry.....	743
<i>Sugata Bhattacharya, G. A. Lanka R. Perera, Mariyam Ali, Riddhi Prasad, Palika, Shahin Are Begum, Pema Lhamo, Laxmi Jha, Mini S Thomas</i>	
Analysis of High Current Arc Interruption by Vacuum Circuit Breakers.....	749
<i>K. Sharath Kumar, Diptiranjan Sahoo, Yugal Agrawal, Manohar Singh Takkher</i>	
An Adaptive Method for Protection of Solar PV Integrated Distribution System.....	755
<i>Vimal A V, Deepak M</i>	
Solar Based EV Charging Station by Integrating Fuel Cell with Photovoltaic Energy Source	761
<i>Sajal Sahu, Giriraj Yadav, Aastha Dwivedi, Anas Ahmad Khan, Sakshi Chourasiya, Yogendra Kumar</i>	
Epileptic Seizure Diagnosis Using Wavelet Transform and Approximate Entropy in EEG Signals	766
<i>Shyam Babu, Arun Kumar Wadhwani</i>	
Cloud-Based IoT Solutions for Smart Grids: Advancing Smart Technologies in Energy Management	772
<i>Franciskus Antonius Alijoyo, Deepak A. Vidhate, Chamandeep Kaur, V Nivedan, V. Kanpur Rani, A. Balakumar</i>	
Enhancing DC Microgrid Performance: A Comprehensive Review of Control, Operation, and Protection Strategies.....	778
<i>Abhiraj Gautam, Durgaprasad Gangodkar, Yogesh Lohumi, Mohd Rehan Ghazi</i>	
Modular Cascaded Multi-Level Inverter for Single Phase Solar Generation	784
<i>Priya Manoria</i>	
Battery Parameter Identification Using Marine Predator Algorithm.....	789
<i>Mahamadtalha Mansuri, Akanksha Shukla</i>	
Integrating Hydrogen Production with Offshore Wind Energy and Its Environmental Aspects: A Review.....	795
<i>Harsh Patidar, Vikas Shende, Prashant Baredar, Archana Soni</i>	

Evaluation of the Design, Fabrication, and Operation of a Vertical Axis Wind Turbine (VAWT) Utilizing a Suggested Grid-Tie Topology Suitable for the Coastal Area of Bangladesh	800
<i>Mohammad Rejwan Uddin, Wanas Uddin Ahmed, Mehadi Hassan Khan, Md Shakhawat Hossain, Mahady Hasan</i>	
A Solar-Based Comprehensive Agriculture System Featuring Smart Irrigation, Weather Station, and Disease Detection	805
<i>Fariza Rahman, Jihan Islam, Fabiha Rahman, Md Shakhawat Hossain, Mohammad Rejwan Uddin, Mahady Hasan</i>	
Environmental Monitoring System for Renewable Energy Installations	811
<i>Mohammad Rejwan Uddin, Mohsina Tabassum, Md Shad Ashfaque Hossain, Md Shakhawat Hossain, Mahady Hasan</i>	
IoT-Based Smart Energy Monitoring and Energy Demand Response System	816
<i>Muzahidul Islam, Nohori Jobaida, Md Shakhawat Hossain, Mohammad Rejwan Uddin, Mahady Hasan</i>	
IoT-Based Solar Automated Irrigation System.....	821
<i>Md Jarif Hossain Khan, Jannat Un Nayeem Iqra, Md Ahnaf Rashid, Noman E Jawad, Md Shakhawat Hossain, Mohammad Rejwan Uddin, Mahady Hasan</i>	
Development of a Scalable Industrial Process Monitoring Sensor System for Large-Scale IoT Networks Using MQTT and Time Series Database.....	826
<i>Samiul Hoque, Imtiaz Ahmed, Asif Jobair, Md Shakhawat Hossain, Mohammad Rejwan Uddin, Mahady Hasan</i>	
A Review of Funding Mechanisms and Tariff Determination Procedures for Renewable Energy Projects: Insights from Germany, Denmark, Australia, India and Pakistan.....	832
<i>Amrita Tiwari, Bhabani Wagle, Deki Wangmo, Faria Haque Pushpo, Hansi Rajapaksha, Ishani Rajapaksha, Nida Mukhtar, Nivedita Pramanik, Quratulain Jamil, Tulika Bhattacharjee, Tripta Thakur, Priyanka Paliwal</i>	
An Adaptive Machine Learning Approach for High Impedance Fault Detection in Microgrid Using Hilbert-Huang Transform	838
<i>Laxman Solankee, Avinash Rai, Mukesh Kirar</i>	
Security Constrained Optimal Power Flow Using Meta-Heuristic Algorithms.....	843
<i>S. Kayalvizhi, R. Arulraj</i>	
Driving into the Future: Exploring Machine Learning Approaches for Optimal Energy Management in Electric Vehicles: A Review of Challenges and Future Recommendations	848
<i>Aby N Raj, K. Sakthivel</i>	
Exploring a Novel Topology for Asymmetrical Multilevel Inverters: A Deep Dive into 7-Level and Their Expansion to 19 Levels.....	854
<i>Naresh Kumar Varathe, Santosh Kumar, Savita Nema, A K Wadhwani, Bharat Mishra, Nirbhay Tiwari</i>	
Current Estimator Based Model Adaptive Sensorless Vector Control Using Hysteresis Controllers for Induction Motors.....	860
<i>Nirbhay Tiwari, R. K. Nema, Rajat Kumar, Naresh Kumar Varathe, Savita Nema</i>	
Conductive and Inductive Charging for EVs Technologies, Standards: A Review	865
<i>Rajat Kumar, Chandrakant Singh, Venkata Ratnam Vakacharla, Nirbhay Tiwari, Tarun Panwar</i>	

Author Index