

# **2023 Innovations in Power and Advanced Computing Technologies (i-PACT 2023)**

**Kuala Lumpur, Malaysia  
8-10 December 2023**

**Pages 1-780**



**IEEE Catalog Number: CFP23K10-POD  
ISBN: 979-8-3503-2519-5**

**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:	CFP23K10-POD
ISBN (Print-On-Demand):	979-8-3503-2519-5
ISBN (Online):	979-8-3503-2518-8

**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

IoT-Oriented Gesture Automation with Mesh Detection Through OpenCV and Pyfirmata Protocol using ResNet-Mediapipe .....	1
<i>P. Sharmila, V. Brindha Devi, R. Jegatha, Anu Rekha S., N. K. Hartika</i>	
Design of IPMSM using FEA in Ansys Maxwell.....	6
<i>Viswateja Anjuru, Sathwik C. Patil, Razia Sultana W.</i>	
Artificial Intelligence Based WhatsApp Bot for Plant Disease Detection.....	12
<i>Karthik Krishnan O., Navya Shaju, Jerry Joseph, Gayathri Mohandas, C. K. Neha, Tamizharasi T.</i>	
A Smart Anti-Collision System for Car Doors .....	18
<i>Jahnvi Chinthaguntla, Srinivasa Rao Gummadi, Gunteiah Upputuri, Jayanth Tulluri, Niharika Dharavath</i>	
A Review on Deep Learning-Based Face Recognition Techniques.....	23
<i>L. Padma Suresh, J. Anil</i>	
Analysis and Real-Time Implementation of Power Line Disturbances Test in Three Phase Induction Motor.....	32
<i>Indragandhi V., Saranya R., Bandla Pavan Babu, Belqasem Aljafari, Gunapriya Devarajan</i>	
Analysis of Welding Power Source using a Double Star Rectifier with Interface Transformer .....	40
<i>Belqasem Aljafari, Indragandhi V., Ashok Kumar L., Selvamathi R.</i>	
Performance Analysis of a Polymer Based Antenna for Cognitive Radio Applications.....	48
<i>Ramyea Ravindaran, Kasthuri N., Senthil Kumar Kandasamy, Adhithya B., Gunaranjan S. P., Karthik Kumar R.</i>	
A Survey on Eliminating Botnet and Intrusion Attacks Through Machine Learning.....	53
<i>Faseela M. H., Manjith B. C.</i>	
Automated Teller Machine Security and Robbery Prevention Based on Human Behaviour Analysis.....	62
<i>Abirami N., Radhika G., Radhika N.</i>	
Modeling, Design, and Implementation of Electric Tri-Wheeler .....	68
<i>Sheik Mohammed Sulthan, Mohammed Mansoor O., Dina Shona Laila, Sri Revathi B., Ahmad Azlan Bin Ab Aziz</i>	
Bijective Soft Set-Based Decision Model for Classification Rule Generation.....	73
<i>N. Deepa, S. Bhuvaneswari, B. Prabadevi, J. Persis Jessintha</i>	
CAPTCHA Recognition using Deep Convolutional Neural Networks (DCNN) .....	79
<i>Canavoy Narahari Sujatha, Chilukoti Pranathi, N. Hari Kumar Reddy, Gandu Sushma, Abhishek Gudipalli</i>	
PV Grid Tied EV Charging System Performance Enhancement Under Unbalanced and Distorted Grid Conditions .....	87
<i>Masiha Aijaz, Ikhlaq Hussain, Shameem Ahmad Lone</i>	
AI Based Cloud Failure Detection and Prevention Algorithm .....	93
<i>M. Moynul Ashik Moni, Maharshi Niloy, M. Fahmid-Ul-Alam Juboraj, Arnob Banik</i>	

Segmentation and Detection of Urban Objects from UAV Images using Hybrid Deep Learning Combinations.....	98
<i>Betha Sai Sashank, Raghesh Krishnan K.</i>	
Numerical Modelling of Evacuated Tube Collector and Evaluation of Integrating Thermal Storage Materials.....	105
<i>Maria Luisa Portugal, Rita Al-Jadiri</i>	
IoT-Based Smart Dam System using STM32F103C8T6 ARM CORTEX and ESP8266.....	113
<i>Niranjana Kumar S., M. Vidhaya Datta Reddy, Mithul Raaj A. T., Vignesh S., Prakash Ramachandran</i>	
IoT-Based Smart Energy Meter for Recording Device-Level Electric Parameters .....	120
<i>Irfan Mujawar, Anwar Mulla, Taha Karbhari</i>	
Rainfall Presage Forecast using Machine Learning Approach.....	125
<i>Deepika Rani Sona, Rashmi Ranjan Das, S. Vikas Reddy</i>	
Automatic Pill Dispenser.....	133
<i>Praveen S., K. K. Shree, Kowshik Harish S., Nishith N., Harini N.</i>	
Analysis of Image Restoration Techniques on Lunar Surface Images .....	138
<i>Dhanvanth Reddy Yerramreddy, Jayasurya Marasani, Ponnuru Sathwik Venkata Gowtham, Don S.</i>	
Performance Comparison of Road Traffic Sign Recognition System Based on CNN and Yolo V5.....	144
<i>Dharnesh K., Pramothe M. M., Sakthi Saravanan A., Sivabalan M. A., Sivraj P.</i>	
ANN Based Single Phase Bidirectional DC-AC Boost Inverter for Grid Connected Solar Photovoltaic Systems Without a Transformer .....	150
<i>Mulumudi Rajesh, Aithepalli Lakshmi Devi</i>	
IoT Based Smart Refrigerator and Shopping System Prototype.....	157
<i>Simran Goel, Sneha Harish, Vijayapriya Ramachandran</i>	
Edge Computing Based Secure Healthcare System .....	162
<i>Souganthika G., Gireesh Kumar T., Radhika N.</i>	
Supply Chain Management using Blockchain and IoT in Pharmaceutical Industries .....	167
<i>Mohammad Zayd, Arpit Johari, M. Manimozhi</i>	
Deep Learning Based Image Fusion Applied on Landsat-8 Archival Data using UVCGAN.....	175
<i>Suhas Preetham Kambham, D. Bharathi</i>	
Tagging Speech for Words in Low Resourced Monolingual Contexts of Sanskrit Shlokas .....	181
<i>Thanmayi S. Hegde, V. Vindhya, V. R. Badri Prasad</i>	
Student Internal Marks Management System.....	190
<i>Rajeswari Boggula, Prasanna Kumar Gamgolu, P. S. Hari Vamsi Vudatha, Madhavi Katamaneni</i>	
Image Data Hiding Scheme using Adversarial Embedding.....	196
<i>Raahul Varman, Malathi P.</i>	
Early Detection of Colon Cancer using Fine Tuned Light Weight CNN Model .....	203
<i>Vanmathi C., Nanda Kishore K. V.</i>	

Forest Fire Classification of Montesinho Park using Artificial Neural Network and Fuzzy Logic .....	208
<i>Meera K. V., Arya Sankar K., Maya L. Pai</i>	
Non-Isolated Bidirectional DC-DC Converter for BLDC Motor in Electric Vehicle Applications.....	214
<i>Anugraha P., Vijayakumar D., Meikandasivam S., Kirubakaran A.</i>	
Transfer Learning-Based Method for Classifying Yoga Poses using Deep Convolutional Neural Networks .....	219
<i>Nagalakshmi Vallabhaneni, Prabhavathy Panneer, Venkatesan Meenakshi Sundaram</i>	
Real-Time Investigation of LoRaWAN Architecture by LoRa Communication Module and Ultrasonic Sensor .....	225
<i>Murali Krishna Tanati, Manimaran Ponnusamy</i>	
Ocean Wave Height Forecasting using Deep Learning Neural Networks and Optimization Techniques.....	230
<i>M. Lohitha Chowdary, P. Premsai, M. Dasharna, I. Sri Kavya, Swapna T. R.</i>	
Hardware Implementation of Anaerobic Biogas Digester for Household and Community Purposes .....	238
<i>Ganesh Y. N. V., Resmi R.</i>	
Design of Printable Microstrip Patch Antenna on Flexible Substrate for Medical Applications.....	246
<i>Bello A. Muhammad, M. F. Ain, M. N. Mahmud, Ahmadu Girigiri, Abdullahi S. B. Mohammed, Mohamad F. M. Omar</i>	
The Effect of Tactile Stimulation and Imagery for a Brief Vibratory Stimulus on Fingertip .....	253
<i>Puja Sengupta, Kishor Lakshminarayanan</i>	
Artificial Pancreas Blood Glucose-Insulin Regularization System using PID Controller.....	257
<i>Rashmi Ranjan Das, Kalapraveen Bagadi, Deepika Rani Sona, Deepikaa Balaji, Nithin Raja, Nitikaa Samundeeswari</i>	
Power Transmission Line Inspection using Unmanned Aerial Vehicle - A Review .....	263
<i>F. J. Ferbin, Loksharan Meganathan, Mohamed Esha, Nguyen Gia Minh Thao, Arockia Selvakumar Arockia Doss</i>	
Enhancing the Performance of Sensing Elements using Mechanically Exfoliated MoS <sub>2</sub> Nanosheet.....	268
<i>Hariprasad R., Sharmila Nageswaran</i>	
Design and Implementation of On-Board Charger Integrated with Rooftop Solar PV for e-Rickshaw .....	272
<i>S. Vijayakumar, N. Sudhakar</i>	
Partial Discharge Analysis of Bio Degradable Nano Filled Oil Under Different Electrode Geometry .....	277
<i>Sangamithirai V. S., S. Chandrasekar</i>	
Influence of Harmonic Voltages on the PD Characteristics of Nano Modified Sunflower Oil .....	282
<i>S. Balaji, S. Chandrasekar</i>	
Partial Discharge Performance Analysis of Carbon Quantum Dots Modified Mineral Oil.....	286
<i>Madhumathi R. M., Chandrasekar S.</i>	
User Impersonation Detection and Authentication using Image Based OTP .....	291
<i>A. Raja Rajendran, Gokul Raj J., Sharath Kumar K., Mukeshvar A., Radhika G.</i>	

Marker-Based AR Enabled Online Electronics Purchasing Web Application .....	299
<i>Shivansh Raj, Priyanshu Kumar, Mayur Kumar, Shubham Kumar Agarwal, Vijayapriya Ramachandran</i>	
Meaningful Cipher Data Generation: Novel Encipher using Fuzzy Logic for Reducing Cyber Data Attacks.....	307
<i>C. Rupa</i>	
Parameter Optimization of Three Branch Supercapacitor Model.....	313
<i>Amar Mani Tripathi, Satyendra Singh</i>	
Cognitively Robust Speech Diarization and Overlap Detection: An Advanced Model for Granular Analysis of Audio Segments .....	318
<i>Ashin K. Ajay, M. Prathilothamai</i>	
Dual Polarized Dielectric Resonator Antenna for WIFI Applications .....	326
<i>Yazeed Qasaymeh</i>	
Assessing the Feasibility and Optimizing Capacity for Solar-Wind Hybrid Renewable Energy Systems for Remote Area .....	330
<i>Rahul Sharma, Yashwant Sawle, Shivangi Sikarwar, Sanjeev Gupta</i>	
Band Gap Modulation of Antidote Super Lattice Armchair Graphene Nanoribbon.....	337
<i>Bikramjit Basumatary, Agile Mathew</i>	
Spatial-Temporal Analysis for Traffic Incident Detection using Deep Learning.....	342
<i>Solomon Staby, Manjusha R.</i>	
Review of Detection and Classification of Power Quality Disturbances using Machine Learning and Deep Learning Methods.....	348
<i>Tatireddy Ravi, Seella Srividya, Praveena A., Vanga Anil, Sathish Kumar K., S. Jayaprakash</i>	
Integration of Convolutional Neural Network and Support Vector Regression for Electricity Price Forecasting .....	356
<i>Rashed Iqbal, Hazlie Mokhlis, Anis Salwa M. Khairuddin, Nurulafiqah Nadzirah Mansor, Nur Elida Mohamad Zahari, Suresh Sankaranarayanan</i>	
Feasibility Study of Solar Thermal System Integration for Hot Water Usage in a Hotel Located in Shetland Island, Scotland .....	361
<i>M. Sajid Hossain, Shameem Ahmad, Sujan Howlader</i>	
A Novel Breathing Rate Estimation Framework using 3 Distinct Types of Signals.....	366
<i>Siripireddy Venkateswarlu Reddy, N. Kiran Kumar, N. Ramesh, K. Chandrasaha Reddy, Dudekula Gouse Peera, N. Chinna Alluraiah</i>	
Double-Tuned Harmonic Passive Filter Design for Harmonic Mitigation at LV Distribution Network Caused by Electric Vehicle On-Board Charger.....	374
<i>Jun Zhe Tan, Rodney H. G. Tan</i>	
Significance of Secure Internet of Things Device Certification – An Authentication Perspective.....	380
<i>M. Vellaipandi, B. Bharathi, K. Gobinath, K. K. Soundra Pandian</i>	
Machine Learning Based Crop Yield Prediction in Agriculture: A Survey in Vellore.....	386
<i>Durai Raj Vincent P. M., Dhivya Elavarasan</i>	

Estimation and Analysis of Heat Dissipation Capability of Dielectric Liquids using Induction Time for Oil-Paper Insulation System .....	391
<i>Saurabh Dutta, Hazlee Azil Illias, Arijit Baral</i>	
Automated Wood Surface Defects Recognition System using Yolov4-Tiny Model.....	397
<i>Ahmad Muaz Bin Musa, M. Abdul Momin, Anis Salwa M. Khairuddin, Uswah Khairuddin, Azlin Ahmad, Nenny Ruthfalydia Rosli</i>	
Current Status and Challenges of Renewable Energy Implementation in Bangladesh.....	402
<i>Haider Mahmud Bijoy, M. Mahadi Hasan, Shameem Ahmad, A. G. M. Mustayen Billah, M. Sajid Hossain, Hazlie Mokhlis, Saad Mekhilef</i>	
NLBP - An Improved Local Binary Pattern for Texture Classification using Correlational Features of Neighbouring Pixels.....	409
<i>Akash Dev V., A. Baskar</i>	
Security Analysis of OAuth 2.0 Implementation.....	416
<i>Swarag Sharma, K. P. Jevitha</i>	
Minimising Energy Consumption Cost using Ant Colony Optimization with Power Quality Considerations Under HEMS Environment .....	424
<i>Keerthana K., Sneha S., Nandan G., Senthil Prabhu Ramalingam, Prabhakar Karthikeyan Shanmugam, I. Jacob Raglend</i>	
Environment Safe Biodegradable Green RFID for Green Internet of Things .....	432
<i>C. Vanmathi, K. Maithili</i>	
Enhancing Energy Efficiency in Residential Buildings: A Comparative Analysis of Supervised and Unsupervised Learning Techniques.....	440
<i>Reji K., Resmi R., Rohini S., Padmavathi S., Sreevidya C., Rekha P. Vishwanathan</i>	
Selection of Third Party Logistics (3PL) to Transport Cold Manufactured Items using MCDM Under Neutrosophic Approach .....	448
<i>Kalaivani K., Palanivel Kaliyaperumal, Selcuk Cebi</i>	
Time-Delayed Inertial Bidirectional Associative Memory Neural Network: A Dynamical Exploration .....	453
<i>Sangeetha Rajendran, Palanivel Kaliyaperumal</i>	
Comparative Analysis of ON/OFF, PID and Model Predictive Control System in HVAC Systems .....	459
<i>Swathi Anil, Srinaath H. H., Jayakumar M.</i>	
A Review on Solar-Based High Gain DC/DC Converters for Microgrid Applications.....	464
<i>Jagadeesh Ingilala, Indragandhi Vairavasundaram, Chockalingam Aravind Vaithilingam, Arthanari Jagadeeshwaran</i>	
Power System Harmonic Estimation using Whale Optimization Algorithm and Least Square Approach .....	469
<i>Ashok Bhoi, Ranjan Kumar Mallick, Pravati Nayak, Gayadhar Panda, Sairam Mishra, Ajay Kumar Swain</i>	
Designing Control for Markovian Switching Neural Network with Stochastic Perturbation.....	474
<i>Sasikala Subramaniam, Prakash Mani</i>	
Intelligent Safety Braking System for High Speed Vehicle on Curved Road for Rollover Prevention .....	480
<i>Yash Rajendra Shirke, Jayant S. Karajagikar, P. Ramani Ranjan Senapati, Maneetkumar R. Dhanvijay</i>	

Driver Stress and Workload Based Experience Analysis to Compute the Effects of Designing and Calibrating In-Car Navigation System .....	486
<i>Syed Thouheed Ahmed, Amogh S. Guthur, K. L. Shreyan Reddy, Affaan Ahmed, T. Vishal Reddy</i>	
Smart Sericulture Monitoring System using IoT .....	493
<i>Krishna Chaitanya Ghantasala, Kranthi Madala, Baji Nalamala, Venkata Mohan Sessa Sai Yarasu, Sneha Thammisetty</i>	
ANN Based Fake Profile Detection and Categorization using Premetric Paradigms on Instagram .....	498
<i>Afifa Salsabil Fathima, Syeda Reema, Syed Thouheed Ahmed</i>	
Movie Recommendation Systems Using Improved Non-Negative Matrix Factorization .....	504
<i>A. Sherly Alphonse, Harshit Verma</i>	
Facilitating Fingerprint-Based Door Automation System using RFID and Bluetooth .....	509
<i>A. Sherly Alphonse, Chitranshu Gupta, Mohammad Kamran Warsi, Karmokar Dhruv Shantu, Aryaman Tamotia</i>	
Remote Vital-Sign Monitoring for Heart-Attack Patients in Telemedicine .....	514
<i>Sai Sri Surya Yandamuri, Jodu Manjula, Vinay Varma R., Vetrivelan P., K. B. Ajeyprasaath</i>	
Development of Eco-Friendly Solar PV Based DC-DC Triple Lift Luo Power Converter for Water Pumping Applications .....	521
<i>R. Seyezhai, A. Bharathi Sankar Ammaiyappan, K. Ayshvarya Laxmi, K. R. Mahalakshmi, S. Jayasree</i>	
Realization of a Modified Interleaved Buck Converter for Charging of Electric Vehicle Batteries .....	528
<i>R. Seyezhai, A. Bharathi Sankar Ammaiyappan, K. Murugappan, G. Kishore Sabarish, N. Kaashyap, J. Janson Ranjit</i>	
A Privacy Protection Mechanism for Indian Health Care Data Exchange using Blockchain.....	534
<i>Meenavolu S. B. Kasyapa, Vanmathi C.</i>	
Comparison of Single-Phase Bidirectional AC/DC Converter for V2G Applications.....	543
<i>Vishnu Vijay Pillai, M. R. Sindhu</i>	
Image Enhancement Method for QR Code Recognition System .....	550
<i>Beh Ming Kiat, Rabea Ahmed Faozi, Anis Salwa M. Khairuddin, Effariza Hanafi, Leyla Nesrin Kahyaoglu</i>	
Agronomic Soil Testing Miniature with WSN .....	555
<i>M. Pallikonda Rajasekaran, K. Rajesh, R. Jenitha, H. M. Ramalingam</i>	
Modified Lookup Table for Reduced Torque Ripple in a Direct Torque Controlled PMSM Drive.....	560
<i>Munazah Mushtaq, Shoeb Hussian</i>	
Partial Discharge Classification in Insulation Material via Discrete Wavelet Transform Noise Reduction and Artificial Neural Network.....	566
<i>Shiyu Chen, Hazlee Azil Illias, Nurulafiqah Nadzirah Mansor, Wong Jee Keen Raymond</i>	
Single-Tuned Harmonic Passive Filter Design for AC Electric Railway Traction Power Substation .....	571
<i>Matthew T. M. Lim, Rodney H. G. Tan, Navinesshani Permal, Jing En Chin</i>	
IoT Based Energy Management System in Smart Grid.....	577
<i>C. Balasubramanian, R. Lal Raja Singh</i>	



Comparison Between Space Vector Switching Techniques for a Vector Controlled 5-Phase Induction Motor.....	583
<i>Aliya Riyaz, Shoeb Hussain</i>	
Back Flashover Performance of 500 kV Double Circuit Transmission Lines Struck by Lightning .....	589
<i>Nasiru Yahaya Ahmed, Hazlee Azil Illias, Hazlie Mokhlis, Daniar Fahmi</i>	
Enhanced Grammar Error Detection and Correction using Hybrid Algorithm .....	595
<i>Aryan Dokania, Anshul Bamb, Anisha M. Lal</i>	
Compressor Fault Diagnosis Employing Machine Learning Techniques.....	601
<i>Kalathil Prathapan Pushya, Supriya P., Sasidharan Sreedharan</i>	
Design of 37-Level Inverter with Reduced Switch Count for Low Total Harmonic Distortion.....	608
<i>Chittathuru Dhanamjayulu</i>	
Optimal Placement and Sizing of Single DG to Minimize Energy Loss and Optimizing Voltage Profile Based on Optimized Techniques.....	616
<i>Shazly Abdo Mohamed, Abdelmoamen Mohamed Abdelrahim, I. Jacob Raglend, Mohamadariff Othman, Salma Abdelaal Shaaban</i>	
Grid Integration Improvement of the Wind Energy for a Hybrid Systems Based FACTS .....	626
<i>Shazly Abdo Mohamed, Abdelmoamen Mohamed Abdelrahim, I. Jacob Raglend, Mohamadariff Othman, Salma Abdelaal Shaaban</i>	
Identifying Outliers, Defective Areas and Performance Evaluation of a PV Module using EL Image Processing: A Variational Autoencoder Approach .....	635
<i>Moontasir Soumik, Taium Tasneem Azmi, Mohammad Aminul Islam</i>	
An Improved Differential Evolution for Offline Parameter Estimation in Lithium-Ion Batteries with Real-World Usage Data .....	641
<i>Aala Kalananda Vamsi Krishna Reddy, Shivanshu Shekhar, Komanapalli Venkata Lakshmi Narayana, Rahul Raj</i>	
Modeling and Control of Voltage-Oriented Control Technique on Voltage Source Rectifier.....	648
<i>Panisetty Sreenivasulu, Jakeer Hussain</i>	
Design and Implementation of an Optimized Stationary Wireless Power Transfer System for EV Battery Charging .....	654
<i>A. P. Kansara, V. B. Patel</i>	
Evaluating the Efficacy of Antivirus Software Against Malware and RATs using Metasploit and AsyncRAT .....	659
<i>G. Sai Arunanshu, Kathiravan Srinivasan</i>	
A Brief Survey on Efficient Models for Qubits Encoding using Quantum Machine Learning with Multi Level Time Series Data Classification.....	667
<i>Singaraju Srinivasulu, G. Nagarajan</i>	
Automated Defects Classification of Photovoltaic Modules using YOLOV7 Model .....	675
<i>Weilun Ng, Anis Salwa M. Khairuddin, Noraisyah Mohamed Shah, Azimah Omar, M. Syukri Ali, Nasrudin Abd Rahim</i>	
IoT-Based Smart Driver Monitoring System with Emergency Response Mechanism .....	680
<i>Low Yi Joe, Noel Ng Pang Wang, Koh Kai Yi Celine, Goh Lik King Regan, Effariza Hanafi, Hazlee Azil Illias</i>	

Distribution System Energy Management and Power Quality Improvement by Joint Optimization Procedure.....	686
<i>Raju Jayaraman, Thriuvankadam Srinivasan</i>	
Electric Power Generation-A New Scenario using Biodiesel.....	691
<i>Vijaya Gowri G., Thamarai Selvi G., Shankara Narayanan S. V., Meiyarasan K., Kavinraj K.</i>	
Load Frequency Control of Renewable Sources Through Hybrid Energy Storage.....	698
<i>Irfan Khan, Hazlie Mokhlis, Hazlee Azil Illias, Nurulafiqah Mansor</i>	
Virtual Handwriting Based Smart Board using Deep Learning.....	703
<i>P. Malathi, B. Sai Gayathri, Sreshta G. Lakshmi, Edarada Sahitya, Jhade Sai Rupa</i>	
Performance Analysis of a Modified Three-Phase Multilevel Inverter .....	710
<i>Aparna Shine, Boopathy C. P.</i>	
Identification of Human Movement Through a Novel Machine Learning Approach.....	720
<i>Nafiz Fahad, Anik Sen, Sarzila Sahrin Jisha, Shameem Ahmad, Hazlie Mokhlis, M. Sajid Hossain</i>	
A Novel Proposal in Multilevel Inverter with Genetic Algorithm Optimization.....	725
<i>V. Bharath Choudry, A. Kavithamani, S. Sam Karthik</i>	
Comparative Analysis of Isolated Interleaved Boost Converter and Full Bridge Converter .....	730
<i>Sreelakshmi Dileep, Golla Vishal Dinesh, Parvathy S.</i>	
Comparative Performance Analysis of BLDC Motor using PID and Fuzzy Logic Controllers .....	736
<i>V. Ramanaiah Nippatla, Srihari Mandava</i>	
Chipless RFID Tag by V-Shaped Multi-Resonator for Partial Discharge-Affected Equipment Identification .....	742
<i>S. M. Kayser Azam, Mohamadarijf Othman, Tarik Abdul Latef, Hazlee Azil Illias, A. K. M. Zakir Hossain, Ahmad A. Ababneh</i>	
Estimating Remaining Useful Life and State of Health of EV Lithium Ion Batteries using Sequential CNNs .....	747
<i>Ganesh Kumar, P. Vetrivelan, Krishna Kumba, K. B. Ajeyprasaath</i>	
System for Supporting Children with Autism Spectrum Disorder Based on Deep Learning Techniques.....	753
<i>Manjupriya R., Maheswari C., Vaisali S., Albert Alexander Stonier, Shankar S.</i>	
Influence of Oxygen on Dielectric Properties of HFO1336Mzz(E)/CO <sub>2</sub> Gas Mixture .....	759
<i>Rizwan Ahmed, Rahisham Abd Rahman, Muhammad Saufi Bin Kamarudin, Nor Akmal Binti M. Jamail, M. Nor Ramdon Bin Baharom, Amir Izzani Bin Mohamed, Mati Ullah Ahsan</i>	
Power Quality Perspective: Impact Analysis of Electric Vehicles Penetration in Grid .....	764
<i>Raghav R., Ilango Karuppasamy</i>	
Enhancing the Automotive Software Test Environment using Continuous Integration and Validation Pipeline.....	770
<i>S. Nithin, Hamsalekha S. J., Parvathy S.</i>	
Blockchain-Powered Learning Pathway Suggestion System .....	776
<i>Udit Kumar Mahaldar, Dinakaran M.</i>	

Feasibility Study of Wind Turbine Generator for Potential Onshore Installation in Malaysia .....	781
<i>Nur Aisyah Muhammad Imran Yeong, Nurulafiqah Nadzirah Mansor, Kamal Akashah Che Kamaruddin, Arif Fikri Bin Othman</i>	
Multimodel Sensor Based Fog Prediction in Parkinson's Disease: A Deep Learning Approach.....	788
<i>B. Lisha Preethi, V. E. Jayanthi, M. Indhumathy</i>	
Martian Terrain Classification Through Federated Learning: A Decentralized Approach for Understanding the Mars .....	796
<i>Thillai Chithambaram, Sowmiyalakshmi G., Kathiravan Srinivasan</i>	
Machine Learning for an Assembly Line Application .....	802
<i>Praylin Jerish J., Pavithra L. K., Edward Jero S., Ramkumar Sampath, Davidson Jebaseelan</i>	
Optimal Integration of Large-Scale Solar and Battery Energy Storage System in Malaysia .....	807
<i>Kamal Akashah Che Kamaruddin, Nurulafiqah Nadzirah Mansor, Nur Aisyah Muhammad Imran Yeong, Arif Fikri Othman</i>	
Adaptive Fuzzy Controller for Point Absorber Wave Energy Converter in Irregular Waves .....	814
<i>S. Balamurugan, Kousika Kumar A., K. R. M. Vijaya Chandrakala</i>	
360-Degree Disinfection Box using Ultraviolet Sterilization with IoT .....	820
<i>Venkata Sneha G., Swathi N., Vamsi Vinay Nukesh S., Shiva Shankar Ch, Sai Phani Bhavanth K.</i>	
Remote Monitoring and Control of IEEE 5 Bus System .....	826
<i>S. Balamurugan, S. Ashwin, C. Vaishnavi Sudeep, R. Jishnu, Sri Harshitha V.</i>	
Cloud Based Optimization for Real-Time Voltage Stability Enhancement using IoT .....	832
<i>S. Balamurugan, Vijay Saiteesh Ats, Ashwin S.</i>	
Ecoskinomics: Exploring the Ecological Factors Shaping Skin Health .....	837
<i>S. Abhishek, Anjali T., Lekshmi S.</i>	
Automatic Railway Track Crack Detection and Alert System.....	842
<i>G. Harika, T. J. Charan, N. Swathi, Praveen Kumar. K, M. Sai Nikhil</i>	
GBMLP-RBM: A Novel Stacking Ensemble Learning Framework using Restricted Boltzmann Machine and Gradient Boosting Algorithms for Heart Disease Classification.....	849
<i>Kumar A. Shukla, Ayush Choudhary, Somay Vaidh, Uma Devi K. S.</i>	
Revolutionizing Last-Mile Delivery: Unleashing Unprecedented Efficiency in Package Logistics .....	856
<i>Akshay A. S., Gokul Yesudas, Muhammed Azeem Yoonus, S. Abhishek, Anjali T.</i>	
Routing Algorithm for WSN Based Idyllic Coverage in Sensor Networks with Efficient Area Coverage.....	861
<i>Kumar A. Shukla, Somay Vaidh, Ayush Choudhary, Soham Adhikari, Debangam Mandal, Ayush Thakur</i>	
Sweep Spot: Empowering Communities for Sustainable Waste Management in Urban Areas .....	867
<i>Y. Venkata Krishna Vivek, Pendry Pavan Sai, Ratnala Sashank, S. Abhishek, Anjali T.</i>	
ML and DL-Based Segmentation and Classification of Different Types of Venous Thrombosis.....	875
<i>Pavihaa Lakshmi B., Vidhya S.</i>	

Crop-Chat: Pioneering Agricultural Paradigms.....	882
<i>Anantha Krishnan S., Hrishika Dayan, Keerthana A., M. Gopika Menon, S. Abhishek, Anjali T.</i>	
Comparative Analysis of Fuel Cell-Based Three-Phase Interleaved Boost Converter using PI Controller .....	887
<i>P. M. Preethiraj, Belwin Edward J.</i>	
Design and Analysis of IOT-Based Solar Dryer for Sustainable Farming.....	892
<i>Selvaraj Balachandran, Dewar Wilmer Rico Bautista, Belwin Edward, Vincent Herald Wilson, Jose Swaminathan</i>	
Intelligent Trip Planning with Integrated Street View: A Seamless AI-Driven Approach .....	900
<i>Siva Sankar A., Nirmal Kumar K., Sidharth M. Dinesh, S. Abhishek, Anjali T.</i>	
Fractional-Order PID Control of Quadrotor Drone .....	906
<i>Jacob Espinoza, Nour Hakim, Dennis Tan, Tangi Wilson, Kishore Bingi, Eakalak Khan, Sayeda Masrura</i>	
Optimizing Network Slicing Through Neural Network and Particle Swarm Optimization .....	912
<i>M. Kowsalya, Thiruvnkadam Srinivasan, Kangjoo Kim, In-Ho Ra</i>	
A Slice-Aware Network Embedding (SANE) Strategy for Network Service Requests in 6G.....	918
<i>Thiruvnkadam Srinivasan, M. Kowsalya, Hyung-Jin Kim, In-Ho Ra</i>	
Design and Development of Smart Home Desktop Assistant .....	923
<i>Sitharthan Ramachandran, Bishal Saha, Pratik Khandelwal, Rajesh M., Arul R., Mohamed Imran A.</i>	
Predicting Diseases using Chest X-Ray Medical Images .....	928
<i>Lekh Kumar Shisodiya, Anek Chauhan, R. K. Nadesh, Vishnu Kallil</i>	
Real-Time ECG Analysis and Classification using Neural Networks in IoT Devices.....	933
<i>Mohamed Imran A., Sitharthan Ramachandran, Sunder M., Abishek R., Sai Prasath S., Sabarivelan S.</i>	
Simulation Case Studies on New Approaches to Energy Safeguarding: Empowering Remote Areas with Sustainable Power .....	938
<i>Mohammad Nur E-Alam, Mohammad Aminul Islam, Mohammad Khairul Basher, Iftekharuzzaman, Tiong Sieh Kiong, Narottam Das</i>	
Tracking Control of Tello EDU Quadrotor Drone using Image Thresholding .....	943
<i>Abdulmonim Kasraoui, Kishore Bingi, Rosdiazli Ibrahim, Madiyah Omar, P. Arun Mozhi Devan, B. Rajanarayan Prusty</i>	
Malware Analysis for Proactive Defence on Cyber Threat Vulnerabilities .....	949
<i>Gowtham Pushkar Bhattraju, Udhayakumar Shanmugam, B. Indira, Uma Nandhini D.</i>	
Dual Switch High Gain Multi-Level Capacitor Clamped Converter for Electric Transportation Vehicle.....	956
<i>Athikamsetti Rudra Santhosh Kumar, Nandagopal Arun</i>	
Safeguarding SMS: A Dynamic Duo Approach to Tackle Spam using LDA and QDA .....	962
<i>Veerababu Addanki, Sathvik Durgapu, Kolla Dorasanaiah, S. Abhishek, Anjali</i>	

Smart and Coordinated Charging using Ensemble Model for Plug-In Electric Vehicle .....	968
<i>Ali Najem, Abdallah Abdellatif, Jeevan Kanesan, Anis Salwa M. Khairuddin, Muhammad Izhar Kairi</i>	
An Empirical Analysis of Topic Categorization using PaLM, GPT and BERT Models.....	973
<i>Dhanvanth Reddy Yerramreddy, Jayasurya Marasani, Ponnuru Sathwik Venkata Gowtham, S. Abhishek, Anjali</i>	
Detailed Analysis of Electric Vehicles and Solar-Powered Charging Stations .....	979
<i>D. Kavitha, B. Sharmila</i>	
A Novel Self Learning Activation Function using Gegenbauer Polynomials for an Effective Medical Image Denoising.....	985
<i>M. Deepthi, G. N. V. R. Vikram, Venkatappareddy P.</i>	
A Comparative Study of Inrush Current on Star, Delta, and Star-Delta Starters for a 1.5kW Three Phase Induction Motor with Power Quality Analyzer and Powertag .....	990
<i>Toto Tohir, Endang Habinuddin, Sofyan Muhammad Ilman, Febi Ariefka Septian Putra, Hadrian Anwar, Rizal Fadilah</i>	
Analysis and Implementation of Power Optimizer using Sliding Mode Control Enabled String Inverter for Domestic Applications .....	997
<i>Selvamathi R., A. Radhika, Loganathan Ashok Kumar, Indragandhi V., Belquasem Aljafari</i>	
Temperature Analysis of BLDC Motor Used in Electric Vehicle at High Torque Load using SVPWM Technique.....	1004
<i>Manjesh, K. C. Manjunatha, M. Kirankoushik</i>	
Automating Machine Learning Model Development: An OperationalML Approach with PyCARET and Streamlit.....	1009
<i>Annamalai R., Deena S., Venkatakrishnan R., Harrieni Shankar, Y. Sree Harshitha, Harini K., M. Nikhil Reddy</i>	
Modified Time-Domain Features for Permanent Magnet Synchronous Motor Bearing Fault Detection using Current Signal.....	1015
<i>Geetha G., Geethanjali P.</i>	
Replication and Analysis of Arcing Signal using Software-Defined Radio Techniques .....	1021
<i>Piyush Modi, Kedar Purandare, Hassan Mohammed Esa Lashkari</i>	
Estimation of Battery State of Charge using Machine Learning Techniques .....	1026
<i>Vishnu Priya K. J., Shanmughasundaram R.</i>	
Design and Development of Land Rover for Disaster Management .....	1031
<i>A. R. Kalaiarasi, Deepa T., S. Angalaeswari, D. Subbulekshmi, Kripalakshmi Thiagarajan, Selva Sundar K.</i>	
Hybrid Face and Eye Gesture Tracking Algorithm for Tello EDU RoboMaster TT Quadrotor Drone .....	1036
<i>M. Iskandar, Kishore Bingi, Rosdiazli Ibrahim, Madiyah Omar, P. Arun Mozhi Devan</i>	
A Novel Hybrid Integrated Gradient Based Self Refined Segment Editing Parallel Model for Tracking Entities in Video Frames .....	1042
<i>Mohanraj G., Nadesh R. K., Marimuthu M.</i>	
Fingerprint Gender Recognition using Convolutional Neural Network .....	1048
<i>K. G. Saravanakumaran, Barath R., Nitha L.</i>	

Design and Modeling of Inductive Wireless Power Transfer for Electric Vehicles.....	1056
<i>Viswateja Anjuru, Siddharth H. Karmarkar, Arihant Singh Samyal, Razia Sultana W.</i>	
Modelling of Hybrid Energy System for Demand-Side Management: A Case Study of Industrial Customer in Malaysia.....	1061
<i>Nur Elida Mohamad Zahari, Hazlie Mokhlis, Nurulafiqah Nadzirah Mansor, Mohamad Fani Sulaima</i>	
Smart Identity Card for Campus Automation.....	1067
<i>I. S. Akila, Paveen Pratheek, Aditya Poonia</i>	
Detecting and Fixing SQL Injection and Cross-Site Scripting Vulnerabilities in Web Applications.....	1072
<i>Arjun Sivaraman, Mahera Furniturewala, P. Gayathri</i>	
A New Configurable SC-Based MLI Topology with Lower Device Count .....	1079
<i>Marif Daula Siddique, Noraisyah Mohammad Shah</i>	
Design of Conformal X-Band Bandpass FSS for SATCOM Applications .....	1085
<i>C. Elango, M. Kannan</i>	
Optimization of Distribution System Reliability using Dandelion Optimizer .....	1090
<i>Jia-Wen Tang, Chin-Leong Wooi, Wen-Shan Tan, Hadi Nabipour Afrouzi, Syahrin Nizam Bin M. Arshad, Yee Von Thien</i>	
Leak Machine Testing for a Blow-Molded Component using Programmable Logic Controller.....	1098
<i>Mukesh S., D. Subbulekshmi, K. Krishnakumar, Deepa T., S. Angalaeswari</i>	
Vibration Analysis of BLDC Motor Used in Electric Vehicle at High Torque Load .....	1105
<i>Manjesh, Manjunatha K. C., Kirankoushik M.</i>	
Design Prospects of Parallel U-Shaped Multi-Resonator for Fabric-Based Chipless RFID Tags .....	1112
<i>Sanaullah Khan, A. K. M. Zakir Hossain, S. M. Kayser Azam, Mohamadarif Othman, Nurulhalim Bin Hassim</i>	
Electromagnetic Compatibility: Challenges, Solutions, and Best Practices for Mitigating EMI in Electronic Systems .....	1117
<i>Shaini Garg, Hassan Mohammed Esa Lashkari, Haresh Pokale</i>	
Electrothermal Modelling of Squirrel Cage Induction Machine with Winding Fault Analysis .....	1122
<i>T. V. Brindavan, R. Raja Singh</i>	
Optimal Renewables-to-Grid Connection with N-1 Contingency Analysis .....	1128
<i>Arif Fikri Bin Othman, Kamal Akashah Bin Che Kamaruddin, Nurulafiqah Nadzirah Mansor, Nur Aisyah Muhaammad Imran Yeong</i>	
DTC-FOC Hybrid Controller to Control the Speed and Torque of BLDC Motor .....	1135
<i>M. Abirami, P. Balakrishnan</i>	
Combined kiloWatt and negaWatt Trading with Blockchain.....	1141
<i>Maya P., P. Abdul Salam</i>	
A Comparative Study on Forecasting Solar Photovoltaic Power Generation using Artificial Neural Networks .....	1146
<i>Shereen Siddhara Abdul Salam, M. I. Petra, Abul K. Azad, Sheik Mohammed Sulthan, Veena Raj</i>	

Intelligent Wireless Charging Station for Electric Vehicles.....	1152
<i>N. Gomathi, Obili Setty Sai Naga Tejesh, Ayyapu Venkata Sai</i>	
Power Management of Fuel Cell Electric Vehicle using Single Inductor Multi Input Converter.....	1156
<i>S. Rameshbabu, N. Sudhakar, Mohamad Sofain Abu Talip</i>	
Driving Aid Utilizing Android Application .....	1161
<i>N. Gomathi, Sujitha Maddipatla, Nisha Yadavakunta, Gali Teja Sree</i>	
Multimode Interference Based Narrow Spectral Width Bandpass Fiber Optic Filter using NCF-FMF Combinations.....	1167
<i>Anuradha N., Sivabalan S.</i>	
Comparative Analysis of Islanding Detection in Grid Connected Distributed Generation with Variants of Decision Tree Approach .....	1172
<i>Nityananda Giri, Anasuya Roy Choudhury, Pravati Nayak, Ranjan Kumar Mallick, Sairam Mishra, Ajay Kumar Swain</i>	
Electromechanical Analysis of DFIG Under Winding Fault using Ansys Maxwell .....	1177
<i>R. Raja Singh, Arnav Jain, Tanmay Motharkar, Akshat Mutta, Patel Darsh Devangbhai, T. V. Brindavan</i>	
Design and Characterization of Standard Cell Libraries for Optimal Subthreshold Circuits .....	1183
<i>Murali Krishnan M., Anita Angeline A., Sasipriya P.</i>	
Detection of Diabetic Retinopathy using SVM and Random Forest Classifiers .....	1188
<i>N. Abhiram, M. Bony Joseph, A. Sharmila</i>	
Modelling a Wireless Power Transfer System for LD Electric Vehicles using a Self-Oscillating ZVS Inverter .....	1194
<i>Aradhya Talavlikar, Abhishek Jaiswal, S. Shanmugam, A. Sharmila</i>	
Thermal Management Model for Switchgears .....	1199
<i>Suraj Desai, Amol Kale, Mahesh Ranade</i>	
Student Placement Prediction using Machine Learning Algorithms .....	1205
<i>P. Aruna, Abinayashri V. S., Abinayaa Sree K. S., Meghashri A.</i>	
A Review on Exoskeleton Upper Limb Impact, Design, Selection and Application.....	1209
<i>S. Vaisali, Maheswari C., Shankar S., Albert Alexander Stonier, Santhoshkumar P., Sutharsan V., Tanu S.</i>	
An Analytical Study for the Realization of Maximum Efficiency in Wireless Charging System using a Circular Inductive Coil.....	1216
<i>Dharani M., Ravi K.</i>	
Advancing Sustainability and Resilience in Renewable-Based Hydrogen DC Microgrid: Integrative Power Management with Hybrid Energy Storage .....	1223
<i>Shyni R., M. Kowsalya, Seok-Woo Park, In-Ho Ra</i>	
Design of Maneuverable Robotic Arm in Pharmaceutical Industry .....	1230
<i>H. R. Yashawanth, Rahulganth E. N., Srialkshmi Priya Vutukuri, A. Sharmila</i>	
Optimal Location of Facts Devices for Power Loss Reduction and Voltage Improvement in Deregulated Power System using Rider Optimization Algorithm .....	1240
<i>M. Chethan, Ravi Kuppan</i>	

Implementation of Industrial Automation Pyramid.....	1248
<i>Jaya Prakash Basava, Srinivas Paruchuri, Raghu Varma Anupaju, Sanjay Kumar Vinnakota, Bhoomika Peddi</i>	
Performance Evaluation of TAR PWM Scheme for 7 Level Asymmetrical Source Inverter .....	1253
<i>M. Monica Subashini, V. Arun, S. Prabhu, Albert Alexander Stonier, I. Jacob Raglend, Nurulafiqah Nadzirah Mansor</i>	
Real-Time Transient Instability Identification in Power Systems using a PMU-Based EMS System.....	1260
<i>M. Khairun Nizam M. Sarmin, Nira Saadun, Muhamad Tarmizi Azmi, Izham Zainal Abidin</i>	
Power Quality Control Measures for Grid Connected EV with Renewable Energy Resources .....	1266
<i>Dipanjay Dey Sarkar, K. Palanisamy, Nurulafiqah Nadzirah Binti Mansor</i>	
Shockable Arrhythmia Detection using Sequential Minimal Optimization, and Support Vector Machine .....	1272
<i>Lakkakula Kavya, Yepuganti Karuna</i>	
Power Loss Analysis and Validation of the SEPIC-Ćuk Combined Isolated DC-DC Converter .....	1277
<i>Sudarshan B. S., Arunkumar G.</i>	
Fractional Order PID Controlled Bidirectional DC-DC Converter for Common Electric Vehicle (EV) Charging .....	1284
<i>S. Tamilselvan, P. Vijayapriya, S. Bakkiyalakshmi</i>	
Enhanced Non-Isolated Dc-Dc Converter with Common Ground for Renewable Energy Application .....	1291
<i>Syed Mohammad Hammad, Abdullah Al Shaheer, Abdullah Alvi, Mohammad Zaid</i>	
Spiking Neural Network-Based Digit Pattern Recognition in FPGA.....	1297
<i>Naveenraj K. S., Girinath R., Vibushita S., J. Kamala</i>	
Fire Data Acquiring System with Short-Range Wireless Communication .....	1303
<i>Aditya Anand, Bhagwan Jee Mishra, Hemant Kumar Shukla, Aarthi Gunasekar, M. Rajesh Kumar, C. Rani</i>	
A Resilience-Oriented Network Restoration Model for a Flood-Hit Distribution System .....	1308
<i>Suhail Afzal, Zuhri Ashraaf Bin Zainal Asmawi, Hazlie Mokhlis, Hazlee Azil Illias, Nurulafiqah Nadzirah Mansor, Anis Salwa M. Khairuddin</i>	
Single Switch DC-DC Boost Converter with MPPT Control for Fuel Cell Electric Vehicle Applications.....	1314
<i>Seella Srividya, Praveena. A, Tatireddy Ravi, Sathishkumar K.</i>	
Driving Range Estimation using AMRIT for Prognostics Model of Electric Vehicles.....	1320
<i>Denathayalan R., M. Venkateshkumar, C. L. Kuppusamy</i>	
Comparative Study of SPS and DPS Controlled DAB-Based DC-DC Converter for EV Charging .....	1326
<i>T. M Shubham, M. Venkateshkumar, Cheng Siong Chin</i>	
A Novel Intruder Alert System using LoRa and FMCW Radar .....	1331
<i>Madhur Padavala, Monish Singam S., J. Valarmathi</i>	
Programmable Wireless Adapter for Commercial Electric Drives and Multifunction Meters .....	1336
<i>Mourishwar I., Chandram Milon Dutta, Selvakumar K., Raja Singh R.</i>	



Efficient Entry Management of Vehicles Through KNN-Based Character Recognition of Number Plates .....	1341
<i>Urjani Chakravarti, Aryan Bansal, Vikram Baruah, J. Valarmathi, Naumi Krishna K. Panicker</i>	
Prevention Strategy to Detect Reverse Shell using Security Onion in Hoax Shell.....	1347
<i>Perla Sai Nikhil, Angela Raj Chadha, Udhayakumar Shanmugam</i>	
Design of Wideband Flexible Transparent Patch Antenna for Sub-6 GHz using Melinex .....	1353
<i>Shamina S. S., Christina Josephine Malathi A.</i>	
Peer-to-Peer Energy Trading using MMR Mechanism in Microgrid .....	1359
<i>Tummalapenta Sivaram, B. Saravanan</i>	
A Unified Perspective on Modelling of Fractional Order-Sensorless MRAS Observer Based VSI Fed Induction Motor Drive.....	1367
<i>Saravanan T. Y., Ponnambalam P.</i>	
Static Image Analysis of Two Dimensional Projection of Particles .....	1375
<i>Pranav A., Shashank B., Pranav S., D. K. Bharath Reddy, M. Aswartha Reddy, Pulkit Dhamija, A. Sahaj Alva, Minal Moharir, Hemavathy, Vivek Bothra</i>	
A Novel Fuzzy-Based Traveling Salesman Approach for Emergency Routing Under Disaster Scenario.....	1381
<i>Jency Leona Edward, Palanivel Kaliyaperumal</i>	
Revolutionizing Popularity Assessment and Energy Efficiency of Electronic Billboards Through Smart Internet of Things Technology .....	1387
<i>Bodhana Sivarajah, Wai Leong Pang, Kah Yoong Chan, Gwo Chin Chung, Yee Wai Sim, B. Jaganatha Pandian</i>	
Automatic Number Plate Recognition and QR Code Double Authentication System for a Carpark .....	1396
<i>Ezilaan Irraivan, Swee King Phang, Abhishek Gudipalli</i>	
High Resolution Low Altitude 2D Map Reconstruction using UAV .....	1402
<i>Tomoki Kosuga, Swee King Phang, Ming Foong Soong, Manee Sangaran Diagarajan, N. Amutha Prabha</i>	
Bidirectional Wireless Charging for Vehicle to Grid and Vehicle to Vehicle Applications .....	1409
<i>M. Rajalakshmi, Sultana W. Razia</i>	
The Application of Image Processing for Mask Detection.....	1415
<i>Jenn Woei Hsiao, Wei Jen Chew</i>	
Diagnosis of Polycystic Ovary Syndrome using Machine Learning Models: A Comparative Analysis.....	1420
<i>Sounak Majumdar, Saroj K. Biswas, Biswajit Purkayastha</i>	
Enhanced Fault Localization in Underground Cables using Varley and Murray Loop Techniques with Remote Monitoring Capability.....	1425
<i>Teng Koong Chung, Puteri Nor Aznie Fahsyar, V. Indragandhi</i>	
A Comparative Study of Design, Control Interlocking Logic, and Network Analysis in 132 kV Substations .....	1431
<i>Mwaphira Pitilizani, Puteri Nor Aznie Fahsyar, Venkatesh Krishna Raja, Ahmad Adel Alsakati, Abhishek Gudipalli</i>	

Solar-Wind fed EV Charger at Variable Irradiance and Wind Speeds .....	1439
<i>Venkatesh Reddy Birudala, Chengaiah Chinthapudi</i>	
An Adaptive Fast Terminal Sliding Mode and ADRC Fusion Control for Quadcopter UAVs .....	1443
<i>Jianfeng Che, Swee King Phang, Lin Ge</i>	
Modelling a PV Panel Embedded with Phase Change Material (PCM) .....	1449
<i>Hafisoh Ahmad, Nurhanim Abu Bakar, Redmund Soo Ting Xin, Rahisham Abdul Rahman</i>	
Performance Analysis of CFSR-DC-DC Converter for EV Applications .....	1454
<i>T. Ravi Sankar Reddy, I. Kumaraswamy</i>	
Comparison Study of Conventional, & Improved Perturb and Observe to Charge an EV Battery .....	1460
<i>M. Jayakumar, R. Kamlagar</i>	
Particle Swarm Optimization-Extreme Learning Machine Model Combined with the Gradient Boost Algorithm for Short-Term Wind Power Prediction .....	1466
<i>G. Ponkumar, S. Jayaprakash, P. Hemkumar</i>	
Advances in EEG-Based Multimodal Emotion Recognition: A Comprehensive Review .....	1472
<i>Rajasekhar Pillalamarri, Udhayakumar Shanmugam</i>	
A Non-Isolated Single-Input Multiple-Output DC-DC Converter for Auxiliary Power Loads in Electric Vehicle Applications.....	1479
<i>Abishek M., Amutha Prabha N., Jitendra Kumar Goyal, Chockalingam Aravind Vaithilingam</i>	
Extended Kalman-Bucy Filter with Fuzzy Hybrid Model for State of Charge Estimation of Lithium-Ion Batteries .....	1484
<i>Sugumar G., Amutha Prabha N., Chockalingam Aravind Vaithilingam, Swee King Phang, Ari Happonen</i>	
Machine Learning Techniques of Land Use and Land Cover Classification using Google Earth Engine: A Comparative Study .....	1490
<i>Deepthi Chennu, Suneetha Manne, Tharun Sai Panuganti</i>	
Performance Investigation on BLDC Motor and Regenerative Braking with Super-Capacitor for Electric Vehicle Application .....	1497
<i>Lakshmi Prasad Shana, Abhishek Gudipalli, Puteri Nor Aznie Fahsyar, Chockalingam Aravind Vaithilingam</i>	
Design and Development of an Inexpensive Inertial Measurement Unit in the Arduino Environment.....	1503
<i>Siva Sivamani Ganesh Kumar, Abhishek Gudipalli, Swee King Phang, B. Jaganatha Pandian</i>	
Exploring Trends in Global Temperature: A Data Analysis Approach .....	1508
<i>Adish Chandra Shrivastava, Utkarsh Chandra Bacchal, M. Umar, Utkarsh Srivastava</i>	
A Near Optimal Smart Door Security System Based on Internet of Things.....	1515
<i>Kowsigan M., Riya Sharma, Apurva Gupta</i>	
An Enhanced Smart Nebulizer using IoT in the Treatment of Asthma Patients .....	1521
<i>M. Kowsigan, Ronit Shetty, Aryan Vyas</i>	
Design and Analysis of a Non-Isolated Multi-Input DC-DC Converter for Electric Vehicle Applications.....	1527
<i>Mohan Bharathidasan, Vairavasundaram Indragandhi, J. Raju, Obuli Pranav D., Chockalingam Aravind Vaithilingam, Puteri Nor Aznie Fahsyar Binti Syed Mahadzir</i>	

Advancing Parkinson's Disease Diagnosis with Self- Adaptive Convolutional Neural Networks Through MRI Analysis .....	1534
<i>P. Pradeep, Kamalakannan J.</i>	
Heart Disease Prediction using Machine Learning Algorithms.....	1539
<i>M. Priya, A. Anitha, M. K. Nallakaruppan, J. Raju, Raghavan R., Divyansh Srivastava</i>	
A Comparative Assessment of Machine Learning and Deep Learning Techniques for Enhanced Home Energy Management Systems.....	1545
<i>Mounica Nutakki, Srihari Mandava</i>	
Design and Implementation of Dual Axis Tracking System for Improving Efficiency of the PV Panel.....	1551
<i>Belqasem Aljafari, Ashok Kumar L., Indragandhi V., Srisailam Sreedhar, Senthil Kumar Ramu, Wai Leong Pang, Aravind Chockalingam V.</i>	
A Modular Industrial IoT Scheme to Monitor and Control Distribution in a Substation Model.....	1559
<i>V. Bagyaveereswaran, Wai Leong Pang, N. Pragatheshwaran, R. Epcipha, R. Anitha, B. Jaganatha Pandian</i>	
Rapid Peanut Dryer .....	1565
<i>N. Saravanan, R. Dhanushnarayanan, M. Gowthamasundar, R. Kaliraj, V. Thrisha, S. Harikrishnan</i>	
Intelligent Path Planning and Machine Learning Integration for Autonomous Firefighting Robots: A Novel Approach for Efficient Fire Suppression .....	1571
<i>Prashanth Sankaranarayanan, Karthik Suresh, Sarvesh Kanna A., Vishnu A., Karthikeyan A.</i>	
Electric Motor Systems: Relative Study on Diverse Motors in the Electric Vehicles .....	1579
<i>Mohana Devi S., V. Bagyaveereswaran</i>	
Explainable AI for Medical Imaging: Advancing Transparency and Trust in Diagnostic Decision-Making .....	1585
<i>P. V. Rajaraman, Udhayakumar Shanmugam</i>	
State of Charge Estimation using Deeplearning .....	1591
<i>Adwyck Gupta, Siddharth S., Harshit Sharan, R. Thirumalaivasan, M. Janaki</i>	
Real Time Surveillance and Cleaning Bot - Vacurity .....	1597
<i>Shrestha Kumar, Meenakshi P., Thirumalaivasan R., Janaki M.</i>	
Optimum Control with Minimum Battery Storage for Islanded Microgrid Operation Powered by Solar PV .....	1603
<i>Ravindran Nagaratnam, Kokulavasan Thiriambahasharma, Nithusiga Sivapaskaran, Ahilan Kanagasundram, Atputharajah Arulampalam</i>	
An Overview of Electrically Coupled Multi-Input DC-DC Converters for Hybrid Electric Vehicles.....	1609
<i>G. Nithyanandham, N. Sudhakar, Kishore V. Krishnan</i>	

## **Author Index**