

2024 3rd Odisha International Conference on Electrical Power Engineering, Communication and Computing Technology (ODICON 2024)

**Bhubaneswar, India
8-9 November 2024**

Pages 1-478



**IEEE Catalog Number: CFP24ODI-POD
ISBN: 979-8-3503-5438-6**

**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:	CFP24ODI-POD
ISBN (Print-On-Demand):	979-8-3503-5438-6
ISBN (Online):	979-8-3503-5437-9

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

Optimal Fuzzy PID Controller for a Magnetic Levitation System	1
<i>Longdicheem S Sangtam, Subinaya Mohapatra, Dushmanta Kumar Das</i>	
JARVIS - Smart AI Support System.....	7
<i>V. Ramya Manaswi, Meduri Saketh, Mandumula Sai Ravi Tejha, Atluri Sai Karthikeya, Dharani Chandra Prakash, Ahmad Alkhayyat</i>	
Sustainable Practices in Enhanced Diagnosis and Monitoring of Polycystic Ovary Syndrome (PCOS) Using Machine Learning.....	17
<i>Channabasamma, Dharmapuri Siri, Macha Harshitha, Kammagani Shobhan Babu, Aleem Mohammad, Ahmad Alkhayyat</i>	
Application of Fractional Degree of Freedom Controller for Regulation of Frequency Considering EV Aggregator.....	23
<i>Tarakanta Jena, Jyoti Ranjan Padhi, Gayatri Mohapatra, Kumari Kasturi, Subhadra Sahoo, Manoj Kumar Debnath</i>	
Design of Fold-N-Go: A Portable and Eco-Friendly Solution for Urban Mobility	28
<i>B. Purna Vamsi Krishna, S. P. Mishra, Bikash Chandra Pattanaik, G. Sowjanya, K. Parameswara Rao, K. Mohanrao, G. Suresh, K. Gunasekhar, C. Barghava</i>	
Machine Learning for Enhanced Weather Forecasting in Urban Environments.....	33
<i>Nagavindhya Bandi, Chenchulekhana, O. V. Gnana Swathika</i>	
A Comparative Analysis on Deep Learning Approaches for Patient Data Privacy Using Electronic Health Record.....	39
<i>Ritunsa Mishra, Rabinarayan Satpathy, Bibudhendu Pati</i>	
Designing Optimal Control Systems for Ball and Plate Model.....	45
<i>Thiam Vikas, Avinash Haorongbam, K Pious Konyak, Dushmanta Kumar Das</i>	
Load Frequency Control Design for Interconnected Power System Using Kho-Kho Optimization	51
<i>Samaniba Imchen, Imosong Jamir, Dushmanta Kumar Das</i>	
Application of UPQC in Enhancing Power Quality of Microgrid Linked to PV, Wind & Battery with ANN MPPT	57
<i>Bikash Pattanayak, Smrutimayee Nanda, Niranjana Kumar</i>	
Enhancing Hydroponic Systems with IoT: Optimizing pH, Temperature, and Humidity Parameters.....	63
<i>Subhra Debdas, Akshat Jain, Anika Mariam, Anurati Maiti, Anushka Borah</i>	
Novel DC-DC Zeta Buck-Boost Converter Integrated Solar Photovoltaic System.....	70
<i>Abdifitah Abdullahi Osman, Subrat Behera, Babita Panda, Srikanta Mohapatra, Sampurna Panda</i>	
Phase-Shift DC-DC Converter-Based Electrical Vehicle Charging with Power Factor Correction	76
<i>Bhagat Singh Prajapati, Roshan Chitranshi, Raghvendra Tiwari, Nikhil Prabhat, Biranchi Narayan Kar, Amiya Kumar Naik</i>	
Integrated Control Strategy: Simulation Validation of Combined Field-Oriented Control and Direct Torque Control for Induction Motor Drive.....	82
<i>Usha S, Geetha A, Palanisamy R, Ismail Hossain, Mohammed A. Qasim, Subhashree Choudhury</i>	

Impact of Natural Dust Deposition on the Efficiency of Solar Modules Through Field Testing and Modelling	88
<i>Geetha A, Usha S, Subhashree Choudhury, Ismail Hossain, Taraprasanna Dash, Ankireddy Narendra</i>	
Smartpred Hybrid Microgrid Controller Based on Fuzzy Logic Controller.....	94
<i>G Srikanth, G Sravanthi, T. Jayanth Kumar, K. S. Bhargavi, Kalagotla Chenchireddy, Thakur Roshini</i>	
EEG Signal Classification for Management of Epilepsy Using RBF Kernel-Based Support Vector Machine	101
<i>Debashisa Samal, Laxmipriya Samal, Alok Kumar Mishra, Sudhir K. Routray</i>	
Analyzing the Predictive Power of Solar Photovoltaics Using Three Machine Learning Models	107
<i>Aadyasha Patel, O. V. Gnana Swathika</i>	
Battery Swapping for Electric Vehicles: Assessing Its Viability as an Alternative Or Complement to Fast Charging	113
<i>Anibal Mezaib Boti, M. V. Eashwar, Harsh Shekar, O. V. Gnana Swathika</i>	
Thermal Modelling and Efficiency Analysis of On-Board Charger Using Wide-Gap Semiconductor Devices for EV Application.....	119
<i>Saundarya Priyadarshini, Lanka Sridutt, Suyash Prakash, Kanimozhi Gunasekaran, Ravi Samikannu</i>	
A Comparative Study of Recurrent Neural Networks for Predicting Indian Bank Stocks	125
<i>Ibanga Kpereobong Friday, Sarada Prasanna Pati, Debahuti Mishra</i>	
Detection of False Information in Digital Media Using Blockchain Technology	131
<i>Aswini Kilaru, L V Narasimha Prasad, G S Pradeep Ghantasala, U Ananthanagu, Suresh Kallam, Rajesh Sharma R</i>	
Enhanced Heart Disease Prediction Using Grid Search Optimized XGBoost Classifier	136
<i>Tina Babu, Rekha R Nair, Pavithra K</i>	
Optimized Rainfall Prediction Model Using Optune CatBoost: An Innovative Approach.....	141
<i>Tina Babu, Rekha R Nair, Pavithra K</i>	
Predicting Fetal Weight and Pregnancy Advisory Using Deep Learning Algorithm.....	147
<i>Rajesh Sharma R, Mesfin Abebe, Mendistu Zenebe, Haymanot Teshale, Akey Sungheetha, Gs Pradeep Gandasala</i>	
Integrating Blockchain Technology for Enhanced Security and Trust in Remote IoT Healthcare Systems.....	153
<i>V. Ellappan, R Rajesh Sharma, Akey Sungheetha, K. Karthick, S. Karthick, G S Pradeep Ghantasala</i>	
Rice Paddy Disease Detection Using Convolutional Neural Networks	159
<i>Rajesh Sharma R, Sandeep Pradeep, Mridul Pal, Jackwin Joseph, Akey Sungheetha, Ezil Sam Leni</i>	
Quantum Based Floyd-Warshall's Algorithm with Attention U-Net Segmentation Model for Predicting Pixel Representation of Satellite Image	165
<i>Sengottaiyan N, Gnanaprakasam T, Anantha Babu S, Rajesh Sharma R, Akey Sungheetha, G S Pradeep Ghantasala</i>	

A Modular CNN Framework for Hierarchical Mango Grading and Quality Assessment	171
<i>Rahul Adhikary, Sandipan Pine, Subhra Jyoti Choudhury, Akey Sungheetha, Rajesh Sharma R, G S Pradeep Ghantasala</i>	
Design and Synthesis of State Transition Graph-Based Sequential Multiplier for Fast Computing Operation.....	177
<i>Sandipan Pine, Rajesh Sharma R, Rahul Adhikary, Satyasis Mishra, Akey Sungheetha, G S Pradeep Ghantasala</i>	
Empirical Analysis of Digital Currency Herding and Contagion Effect Using Deep Learning Approaches.....	183
<i>Nrusingha Tripathy, Sarbeswara Hota, Debahuti Mishra, Biswajit Dash, Subrat Kumar Nayak, Jogeswar Tripathy</i>	
Exploring Local Governance and Sustainability Challenges in Community Reserves: A Data Science Perspective with Global Insights.....	189
<i>Sachin Pavithran A P, Anurima Banerjee, G S Pradeep Ghantasala, Rajesh Sharma R, U Ananthanagu, Suresh Kumar Natarajan, Pellakuri Vidyullatha</i>	
Fault Current Limiter and Its Impact in PMSG Based Grid Connected Three Phase System	195
<i>Saswat Mishra, Gyan Ranjan Biswal, Papia Ray</i>	
Power System Fault Treatment Using Deep Learning.....	201
<i>Anjan Kumar Sahoo, Sudhansu Kumar Samal, Girija Sankar Panigrahi</i>	
Next Generation Heffron-Phillips Model for Damping Oscillations Based on Snake Optimization Algorithm	207
<i>Niharika Agrawal, Sheila Mahapatra</i>	
Chaos in Electric Motor Drives: An Introduction.....	213
<i>Yaheya Al Aman, Nirod Chandra Sahoo</i>	
Adaptive Control of Three-Phase Induction Generator for Power Quality with PI Gains Optimization.....	219
<i>Bindra Dawar, Sabha Raj Arya, Rajasekharareddy Chilipi, Ashutosh K Giri</i>	
A Deep Learning Based Translation Performance Analysis of International Languages	227
<i>Subhashree Satpathy, Smita Prava Mishra, Ajit Ku. Nayak</i>	
Consideration of Mutual Inductance for Load Coil Embedded MRC-WPT System.....	232
<i>Sushree S Biswal, Pragyan Paramita Mohanty, Durga P Kar, Satyanarayan Bhuyan</i>	
GSA-PSO: A Hybrid Optimization Algorithm Using WPT and RBFNN for Accurate Epileptic Seizer Detection	237
<i>Sumant Kumar Mohapatra, Puspanjali Mallik, Kaliprasanna Swain, Sabita Mali, Jyoti Mohanty</i>	
Energy Management in Off-Grid PV Battery System with P&O MPPT.....	242
<i>Madhumathi Eti, Dinesh M N</i>	
Navigating Data Abundance: Generative Conversational AI Agents in Information Analysis.....	248
<i>Barnali Sahu, Sanjog Das, Ayush Pattnaik, Abhishek Puri, Kasmik Mohanty</i>	
Non-Invasive Blood Glucose Estimation Using Photo Plethysmography and Extreme Learning Machine Algorithms	254
<i>Mudra Narasimharao, Biswaranjan Swain, Praveen Priyaranjan Nayak, Satyanarayan Bhuyan</i>	

Common Salt Water Battery for Sustainable Energy Solutions in Remote Areas	260
<i>Shreya Bhawal, Kangkana Baishya</i>	
Enhancing Diagnostic Precision for Early Detection of Gastric Polyps with U-Net3+ Segmentation.....	264
<i>Kumar Janardan Patra, Jibitesh Mishra, Sanjit Kumar Dash, Suvendra Kumar Jayasingh</i>	
Advanced 3D-Printed Swirler Design for Two-Phase Flow in Pipelines Within Power Engineering Sectors	269
<i>Ismail Hossain, Yaroslav O. Asiptsov, Manohar Mishra, Rasmi Ranjan Panigrahi, Velkin Vladimir Ivanovich</i>	
Empowering Diabetic Care: Building an Edge-Enabled Machine Learning Model for Classification	276
<i>Suchi Prangya Sahoo, Subhashree Dash, Anisha Subudhi, Shiva Agarwal, Prajna Paramita Dabata, Shashank Agarwal</i>	
Evaluation of AI-Driven Autonomous and TinyML Applications for Enterprise Automatic Shopping Bills Management.....	282
<i>Mudra Narasimharao, Aditya Kumar Lenka, Biswaranjan Swain, Praveen Priyaranjan Nayak, Satyanarayan Bhuyan</i>	
Raspberry Pi Integrated CNN Method to Find the Skin Lesions from Photo Images	288
<i>Jeba Singh O, Lavanya D, Rajesh Sharma R</i>	
A Comparison of Various Task Scheduling Algorithm Using Cloudsim	294
<i>Padmaja Patel, K. Murali Gopal, Nimai Charn Patel, Binod Kumar Sahu</i>	
Frequency Control Analysis Using Modified Fractional Order PID Controller	298
<i>Gayatri Mohapatra, Tarakanta Jena, Sabita Tripathy, Narendra Kumar Jena, Prakash Chandra Sahu, Manoj Kumar Debnath</i>	
Analytical Performance Comparison of IoT Communication Protocols MQTT and CoAP from Security Perspective	304
<i>Satyaprakash Swain, Binod Kumar Pattanayak, Mihir Narayan Mohanty, Chinmayee Senapati</i>	
Fake Review Identification Using Hybrid Fusion of Machine Learning and Natural Language Processing Techniques.....	309
<i>Chitti Reddy Veda, Namburu Apoorva, N. Vishnu, Muni Sekhar Velpuru, Hammikolla Akshaya, Sai Prakhayath Siripuram</i>	
Power Factor Improvement Using Noble Techniques	315
<i>Debani Prasad Mishra, Sai Prajyan Padhi, Bhaswati Pati, Himanshu Mohapatra</i>	
Revolutionizing Skin Cancer Detection with Advanced YOLOv9 Deep Learning Models	321
<i>Epuri Sai Geethika, G Vaishnavi, B Sai Krishna Reddy, Mukta Jagdish, Kottu Santosh Kumar, Saroja Kumar Rout</i>	
Intelligent Parking System Using Verilog	327
<i>Thota Himadeep, Aravind Krishnan, Rajesh Kannan</i>	
Speaker Identification from a Tribal Language Using Several Learning Techniques	332
<i>Subrat Kumar Nayak, Ajit Kumar Nayak, Smitaprava Mishra, Prithviraj Mohanty, Nrusingha Tripathy, Jogeswar Tripathy</i>	
Skin Cancer Detection Using Modified CNN with GLCME Features	338
<i>Subhadarshini Das, Goutami Das, Mihir Narayan Mohanty</i>	

Aquila Optimization Based Artificial Pancreas (AP) for Control of BG Level in T1DM Patient.....	343
<i>Akshaya Kumar Patra, Girija Sankar Panigrahi, Vijaya Laxmi Patra, Manoj Kumar Debnath, Alok Kumar Mishra, Bidyadhar Rout</i>	
Experimental Analysis of CoFe ₂ O ₄ /rGO/Bi ₂ S ₃ Nanocomposite for Supercapacitor Electrode Applications.....	348
<i>S. Parida, V. S. Pandey, M. K. Nayak, B. K. Sahu, B. B. Sahoo, D. N. Thatoi</i>	
Synthesis, Characterization and Electrochemical Study of SnS ₂ /rGO/SiC Nanocomposite for Supercapacitor Electrode Applications.....	352
<i>S. Parida, V. S. Pandey, M. K. Nayak, B. K. Sahu, B. B. Sahoo, D. N. Thatoi</i>	
Fault Diagnosis in Micro Grid Using Wavelet Transform in Combination with Machine Learning.....	356
<i>Chidurala Saiprakash, S Ramana Kumar Joga, Bera Sowmya, Teki Vamsee Krishna, V. Lakshmi Narayana, Vasupalli Manoj</i>	
Design and Analysis of ANFIS Controller Based Photovoltaic System.....	362
<i>Sayaprasad Mohapatra, Lalit Mohan Satapathy, Sanjeeb Kumar Kar, Narayan Nahak, Manoj Kumar Debnath, Akshaya Kumar Patra</i>	
Utilizing Machine Learning for Orthopedic Patient Classification Via Biomechanical Features.....	368
<i>Roshni Abhisika, Sourav Mishra, Subhashree Mohapatra, Satish Choudhury, Manohar Mishra</i>	
A Sliding Variable Hysteresis Controller-Based Bipolar Leg Converter for the Hybridization of Solar and Wind Power Systems.....	374
<i>Arunyavaraj K, Venkatesh P M</i>	
Blockchain-Based Carbon Offset Tracking System for Sustainable Product Management	379
<i>A Padmavathi, Laxmi Maurya, Gauri Santhosh, G Charan Reddy</i>	
Application of Artificial Neural Network in Detecting, Locating, Classifying and Isolating AC Faults in Grid-Integrated Microgrid	385
<i>Smrutimayee Nanda, Subrat Kumar Barik, Rudra Narayan Senapati, Bikash Pattanayak</i>	
Optimal EVCS and Capacitor Allocation for Mitigating Energy Losses and Voltage Deviation in Distribution Network.....	391
<i>B Vinod Kumar, Aneesa Farhan M A</i>	
CareGenic: AI/ML Based Interactive Medicines Prescription System.....	397
<i>Syed Ammar Ahmed, Shaikh Umair, Ritesh Prasad, Shashank Kumar Singh, Anirban J. Hati</i>	
RF Based Green Energy Harvesting Using an SRR Shaped Perfect Absorber for WiFi and GPS Applications.....	402
<i>Anup Kumar, Rajveer Yaduvanshi</i>	
Inverted Pendulum (IP) Based on Aquila Optimization FOPID Controller (AO-FOPIDC).....	407
<i>Akshaya Kumar Patra, Girija Sankar Panigrahi, Narayan Nahak, Anuja Nanda, Alok Kumar Mishra, Manoj Kumar Debnath</i>	
Leveraging Keras for Early Detection of Diabetes: A Multi-Layer Perceptron Model	412
<i>Kaliprasanna Swain, Sumant K. Mohapatra, Sakti P. Mohanty, Sabita Mali, Farida Ashraf Ali</i>	
An Improved Model for Gene Expression Data Analysis Using Combined Feature Reduction and ELM Approaches.....	418
<i>Jogeswar Tripathy, Rasmita Dash, Binod Kumar Pattanayak, Debaniranjan Mohapatra, Nrusingha Tripathy, Subrat Kumar Nayak</i>	

An Ensembled Hybrid Machine and Deep Learning Approach for Heart Diseases Prediction.....	424
<i>Abhilash Pati, Sambit Ranjan Pattanayak, Umang Kumar Agrawal, Amrutanshu Panigrahi, Manoranjan Parhi, Ashis Kumar Pati</i>	
TLBO FOPID Controlled Cuk and SEPIC Converter Based PFR	429
<i>Alok Kumar Mishra, Pradip Kumar Nanda, Manoj Kumar Debanath, Narayan Nahak, Debashisa Samal, Akshaya Kumar Patra</i>	
PQ Improvement with GWO Fuzzy PID Based SHAF	434
<i>Alok Kumar Mishra, Jeevan Jyoti Mahakud, Manoj Kumar Debanath, Narayan Nahak, Debashisa Samal, Akshaya Kumar Patra</i>	
Solar-Powered Bicycle: A Pathway to Sustainable Urban Transportation.....	439
<i>Udit Mittal, Gunjan Varshney, Subhash Yadav, Abhilasha Pawar, Sangeeta Singh, Amit Kumar Roy</i>	
Advanced Feature Extraction Techniques for Machine Learning-Based Fault Analysis in Power Grids.....	445
<i>Pratham Tatraiya, Himanshu Priyadarshi</i>	
Microwave Remote Sensing Based Solar Generation Forecasting Using Multiple Regression.....	452
<i>Winnie Dkhar, Deigratia Sutnga, Bikramjit Goswami</i>	
PID and Fractional Order PID Based Regulated Multiple Output Flyback Converter	457
<i>Alok Kumar Mishra, Debiprasanna Das, Manoj Kumar Debanath, Narayan Nahak, Shekharesh Barik, Akshaya Kumar Patra</i>	
Classification of Paintings from Digital Images Using Feature-Driven EfficientNet Architecture	462
<i>Nandini Mandapaka, Sandeep Vemuri, Rajani Pinnika</i>	
Design and Implementation of Power Law Filters	468
<i>P Jagadeeshwarrao, Sk Rafiya Mastana, K Gnanendar, K Rajasekhar</i>	
Medical Image Classification Using Decision Trees	473
<i>Aruna Devi. B, M. Rajesh Kannan</i>	
Risk Prediction of Freezing of Gaits Episodes in Parkinson's Patients Using Gated Recurrent Unit.....	479
<i>Ishan Ayus, Chandrashekhar Azad</i>	
Brain Tumor Detection Using an Optimized Deep Learning Approach.....	486
<i>Prajna Paramita Debata, P N Pratikshya, Sanket Padhy, Shiva Agarwal, Sakshi Bansal</i>	
Enhanced Decision Making Through Deep Learning-Driven Robotic Process Automation.....	491
<i>Amrit Jagannath, Debbarni Sarkar, Sarat Kumar Patra</i>	
Experimental Error Bit Calculation of FSO Communication Link Using Arduino-Nano	497
<i>Aniket Panda, Anubhab Panda, Pritam Keshari Sahoo</i>	
Profit Maximization Under Unit Commitment Solutions Through Self-Scheduling	501
<i>Dipu Mistry, Bishaljit Paul, Reshmi Chandra, Suman Moitra, Chandan Kumar Chanda</i>	
Unleashing the Power of Feature Selection Techniques for High-Dimensional Cancer Data Classification.....	506
<i>Chetna Sahoo, Rasmita Dash</i>	
Improvement of Power Quality for Grid-PV Fed Water Pumping System.....	512
<i>Biranchi Narayan Kar, Amiya Kumar Naik, Raj Kapur Kumar, Raghvendra Tiwari</i>	

A Method of Fault Section Identification in High Voltage Direct Current Using Wavelet Transform	517
<i>Archana Panda, Basanta K. Panigrahi, Somanath Mishra, Ritu Singh</i>	
Alzheimer's Disease Detection Using VGG19 Model on MRI Scans	522
<i>Goutami Das, Gyana Ranjan Patra, Ananya Kuanar, Mihir Narayan Mohanty</i>	
Deep Learning-Enhanced Beamforming for Signal Quality Improvement in Heterogeneous Wireless Networks.....	526
<i>Indu Sekhar Samanta, Pravat Kumar Rout, Sukumar Joshi, Sarthak Mohanty, Subhasis Panda</i>	
Wild Goat Optimization-Based Robust Controller for a Vehicle Suspension System.....	529
<i>Akshaya Kumar Patra, Anuja Nanda, Manoj Kumar Debnath, Narayan Nahak, Girija Sankar Panigrahi, Akok Kumar Mishra</i>	
A Novel Method for Calculating Steady-State Operating Conditions for DFIG-Based Wind Turbines.....	535
<i>Amal Lazar, K Navaneeth, Shashidhara Mecha Kotian</i>	
Comparison of Deep Neural Networks for Lung Image Segmentation on Chest X-Ray	541
<i>Biswajit Jena, Suchismita Das, Bemnet Girma, Minakhi Rout</i>	
Design and Implementation of a Dust Detection and Mitigation for a Dual Axis Solar Tracker	546
<i>Alok Chetia, Kumari Nutan Singh, Rhittwikraj Moudgallya, Fahin Ahmed</i>	
Fuzzy Set Theory and Kappa Co-Efficient Application for Prostate Cancer Diagnosis.....	552
<i>Sunil Kumar Singh, Megha Mishra, Navin Ram Daruka</i>	
Attendance Management System Based on Face Recognition Using Raspberry PI.....	559
<i>Madhusmita Panda, Israfil Khan, Aniket Panda</i>	
On-Road Dynamic Wireless Charging for Electric Vehicle Based on Solar Photovoltaic.....	565
<i>Sayaprasad Mohapatra, Lalit Mohan Satapathy, Anuja Nanda, Narayan Nahak, Manoj Kumar Debnath, Akshaya Kumar Patra</i>	
Single-Objective Optimal Power Flow Using Artificial Hummingbird Algorithm.....	571
<i>Ravi Kumar Avvari</i>	
Comparative Analysis of Optimal EV Charging Strategies for Fleet Management, Based on Customer Perspective	576
<i>Maneesh Yadav, Satyaranjan Jena, Chinmoy Kumar Panigrahi, Amiya Kumar Naik</i>	
Day Ahead Load Forecasting of Educational Institutions Using Multiple Linear Regression and Artificial Neural Network.....	581
<i>Dhritiman Das, Bikramjit Goswami</i>	
Preserving Oriya Manuscript Integrity: Transformer-Based Self-Supervised Imputation.....	587
<i>Aryan Kumar Singh, Pranita Baro, Malaya Dutta Borah</i>	
Optimal Size Analysis of ANN Forecast Model of Off-Grid AC-DC Micro Grid System.....	593
<i>Amrit Jagannath, Manish Kumar Babu, Anita Swain, K. R. Satyajit</i>	
Adaptive MBPSS to Damp Electro Mechanical Oscillation of Grid Connected Microgrid.....	598
<i>Samarjeet Satapathy, Narayan Nahak, Manoj Kumar Debnath, Alok Kumar Mishra, Sourashish Patra, Akshaya Kumar Patra</i>	
Market Clearing with Renewable Integration, Storage and Network Limits.....	603
<i>Susovan Dutta, Bishaljit Paul, Barnali Kundu, Chandan Kumar Chanda</i>	

Hybridization of Sparrow Search Algorithm and Sine Cosine Algorithm for Epileptic Seizure Detection	608
<i>Sumant Kumar Mohapatra, Kaliprasanna Swain, Puspanjali Mallik, Sabita Mali, Farida A. Ali</i>	
Prediction of Failures to Enhance Fail-Safe in Steer-By-Wire System	613
<i>Myrtle Binil R, Priestly Shan B, Sheila Mahanathra</i>	
Performance Analysis of Relays Used in Next-Generation Wireless Communication Networks Using the Hata Model.....	619
<i>Meetarani Swain, Madhusmita Panda, Pritam Keshari Sahoo</i>	
Feature Extraction and Machine Learning Models for Heart Disease Prediction and Classification	623
<i>Farida A. Ali, Baibaswata Mohapatra, Amit Vajpayee, Pradeepta Kumar Sarangi, Srikanta Kumar Mohapatra, Alok Kumar Agrawal</i>	
Alzheimer's Disease Classification Using Convolutional Neural Network and Random Hyper-Parameter Tuning	629
<i>R. P. Mishra, D. V. Krishna, Kushal Debnath, Jnanasri Kalakota, Nandini Rout, Chinmaya Ku. Nayak, Sabita Mali</i>	
Reliability and Economic Viability Evaluation of Hybrid Microgrids with EV and Travel Patterns	635
<i>Satyaki Biswas, Suresh Reddy Mekapati, Nalin Behari Dev Choudhury</i>	
Waste Management in Five Star Hotels: A Case Study of Delhi NCR.....	641
<i>Susanta Ranjan Chaini, Renu Sharma, Sonali Goel</i>	
CyberEdPlay-An IQ Calculator for Predicting Mental Health.....	646
<i>Kumaran U, Gurupriya M, Adhitya Vardhan. A, Chittem. Bhavya Sree, Ganugapati Sai Geethika</i>	
Enhanced State of Charge Estimation for Lithiumion Batteries Using Polynomial Voltage Approximation.....	652
<i>Sparsh Karna, Priya Ranjan Satpathy, Pritam Bhowmik</i>	
Rational Approximation Models of Fractional Butterworth Analog Filters	656
<i>Rajasekhar K</i>	
Fuzzy Logic Controller-Based Non-Isolated Single-Phase Half-Bridge Unified Power Quality Conditioner for Ripple Elimination.....	661
<i>P. Bharath Kumar, B. Mouli Chandra</i>	
Wavelet Transform and Least Square SVM Technique for Zone and Fault Classification in Electrical Transformer	666
<i>Nilesh Chothani, Swapnil Kumar</i>	
Traveling Wave-Based Improved Protection Scheme for Transmission Line	672
<i>Pankaj H. Vasava, Dharmesh D. Patel, Nilesh Chothani</i>	
An Automatic Segmentation Model for Brain Tumorous and Its Sub-Regions in Magnetic Resonance Images	678
<i>Pranshu Jena, Sushree Sangita Swain, Umesh C. Pati</i>	
Modern Method to Discriminate High Resistance Internal Winding Faults and Inrush Condition/External Faults in Power Transformer	684
<i>Nilesh Chothani, Dharmesh Patel</i>	

AlexNet-Microgrid: Advanced Deep Learning for Islanding Detection in Microgrids.....	690
<i>Anasuya Roy Choudhury, Ranjan Kumar Mallick, Pravati Nayak, Ramachandra Agrawal, Sairam Mishra</i>	
Contingency Analysis and Placement of DG to Improve Power Performance Indices	695
<i>Raghvendra Tiwari, Sarath Chandra, Biranchi Narayan Kar, Amiya Kumar Naik, Pawan Dadaji Kamadi, Parul Dubey</i>	
Automatic Seizure Detection of EEG Signals Using Deep Belief Network with Robust LMD-Based Features	702
<i>Sebamai Parija, Priyadarshini Raiguru, Mrutyunjaya Sahani</i>	
A Comparative Study of ANN and KNN for Power System Disturbance Classification	707
<i>Sairam Mishra, Pravati Nayak, Ranjan Kumar Mallick, Manoj Kumar Debnath</i>	
Optimizing Phasor Measurement Unit Placement Approach for Enhanced System Observability	711
<i>Boya Sneha, Rohit Babu, Sheila Mahapatra</i>	
Image Colorization Using Auto Encoders	717
<i>Susmita Panda, Mohit Ranjan Panda, Abhigyan Prakash</i>	
Optimal Integration and Management of Solar Generation & Battery Storage System in Unbalanced Distribution Network.....	723
<i>Sigma Ray, Kumari Kasturi, Manas Ranjan Nayak</i>	
Performance Comparison of Fractional Digital Differentiators Using Various Approximation Models.....	729
<i>Rajasekhar K</i>	
Multi-Objective Energy Optimization in Smart Distribution Network Considering Renewable Energy and Battery Storage System	734
<i>Sigma Ray, Kumari Kasturi, Manas Ranjan Nayak, Subhadra Sahoo, Manoj Kumar Debnath, Narendra Kumar Jena</i>	
Enhancement of Small Signal Power System Stability by Multiple Optimal Hydro Governors Damping Action	740
<i>Samarjeet Satapathy, Narayan Nahak, Kunjabihari Sahoo, Alok Kumar Mishra, Manoj Kumar Debnath, Akshaya Kumar Patra</i>	
Analysis of DC-DC Boost Converter Using Dual Current Flows	746
<i>Kumar Biswal, Arya Suman Pattnaik, Sanjeeb Kumar Kar, Akshya Kumar Patra</i>	
Modulation Scheme for Dual Active Bidirectional Flyback Converter.....	751
<i>Bobin John, Meera Murali, Milind Bagewadi</i>	
Deep Reinforcement Learning Technique for Automatic Voltage Regulation.....	757
<i>Priyatosh Mishra, Dipak Ranjan Swain, Adyashree Das, Sunita S. Biswal</i>	
Evaluation of Reliability Indices Through a Cost Minimization Approach for Planning of a Meshed Distribution System.....	763
<i>Amaresh Gantayet, Sudipta Mohanty, Saurabh Kumar Rajput, Manas Ranjan Nayak</i>	
Optimized Hybrid Energy Storage System for Synchronizing Doubly Fed Induction Generator with Enhanced Protection	769
<i>Subhendu Sekhar Sahoo, Kalyan Chatterjee</i>	

A Hybrid Particle Swarm Optimization with Binary Ali Baba and the Forty Thieves Algorithm for Feature Selection	775
<i>Bibhuprasad Sahu, Sasmita Pani, Amrutanshu Panigrahi, Abhilash Pati, Rashmi Rani Patro, Jvr Ravindra</i>	
Single Phase Grid Connected Nine Level Quadruple Boost Inverter with Current Control and Active Damping Capability	781
<i>S. Sarada, Ganesh Challa, O. Hemakesavulu, M. Damodar Reddy, N. Ravisankara Reddy, Pagidela Yamuna</i>	
Optimizing Microgrid Systems with Energy Storage Using Advanced Machine Learning Techniques.....	787
<i>Balaji Prasad Padhi, Saroja Kumar Dash, Subhendu Sekhar Sahoo, Somanath Mishra, Priyajit Dash, Basanta K. Panigrahi</i>	
Empowering Trust: Evaluating Cyber-Security Standards in UAE's Online Banking and Education to Strengthen Consumer Confidence	793
<i>Ahmed Sebihi, Owais Naveed, Rashid Alnaqbi, Rehana Banu Shaik</i>	
A Modified Algorithm for Optimal Estimation of Fuel Cell Parameters.....	798
<i>Shubhranshu Mohan Parida, Pravat Kumar Rout</i>	
Feedforward Frequency Control of Interconnected Power System Using Artificial Hummingbird Algorithm	802
<i>Debasis Tripathy, Amar Kumar Barik, Binod Kumar Sahu</i>	
A Novel Superimposed Positive Sequence Impedance-Based Fault Detection Technique in Microgrid.....	808
<i>Kumar Asit, Chinmayee Biswal, Pravat Kumar Rout</i>	
Investigation of a Novel Optimized PID Controller for Load Frequency Control of Renewable Energy Based Micro Grid.....	814
<i>Prasantini Samal, Niranjana Nayak, Sujit Kumar Bhuyan</i>	
Enhancing 5G NR Downlink Performance Through Advanced Waveform Generation Techniques.....	820
<i>Indu Sekhar Samanta, Pravat Kumar Rout, Sukumar Joshi, Sarthak Mohanty, Subhasis Panda</i>	
Cardio Prognosis: Machine Learning Approaches to Heart Disease Prediction.....	827
<i>Laxmipriya Rout, Amritakshi Mohapatra, Arpita Mohapatra, Swarna Prabha Jena, Bijay Kumar Paikaray, Mangaldeep Chakraborty</i>	
AOA-Based FOIPDF Controller for Load-Frequency Control of Islanded Microgrid	835
<i>Debashish Mishra, Pratap Chandra Nayak, Ramesh Chandra Prusty, Binod Kumar Sahu</i>	
Design and Implementation of a Fuzzy-TID Approach for Frequency Monitoring of a Shipboard Microgrid.....	840
<i>Shibanika Panda, Alivarani Mohapatra, Byamakesh Nayak</i>	
A Fuzzy PIDF Based Adaptive Frequency Control of a Hybrid MG System with Bulk RES Injection.....	845
<i>Krushna Keshab Baral, Pratap Chandra Nayak, Banaja Mohanty, Ajit Kumar Barisal</i>	
Hybrid MPPT Controller for Photovoltaic System Under Partial Shading Condition	850
<i>Mohd Talha Zubair, K. H Phanishree</i>	
Perturbed Sparse Array for Direction of Arrival Estimation	856
<i>Priyadarshini Raiguru, Sebamai Parija, Mrutyunjaya Sahani</i>	

Effect of Ongrid EV Charging and Discharging on Frequency Profile on an Islanded AC Microgrid.....	860
<i>Sabita Tripathy, Prakash Chandra Sahu, Srikanta Mohapatra, Binod Kumar Sahu, Subhra Debdas, Manoj Kumar Debnath</i>	
Frequency Regulation of a Power System with Fuzzy Logic Controller Including RFB.....	866
<i>Subhadra Sahoo, Narendra Kumar Jena, Kumari Kasturi, Binod Kumar Sahu</i>	
Performance Assessment of SSA-Based FOIPDF Controller in Microgrid Systems for Load-Frequency Control.....	871
<i>Debashish Mishra, Pratap Chandra Nayak, Ramesh Chandra Prusty, Binod Kumar Sahu</i>	
An Analysis of Controlled Charging of Electric Vehicles and Its Impact on the Distribution Grid	875
<i>Preeti Singh, Sanjiv Kumar Jain</i>	
Improvement of Maritime Microgrid's Frequency Stability Using MPA Based FOPIDA Controller	880
<i>Rupali Balabantaraya, Pratap Chandra Nayak, Sunita Pahadasingh, Ramesh Chandra Prusty, Binod Kumar Sahu</i>	
Enhancing Load Frequency Control in DG-Integrated Power Systems Using Advanced PID Optimization.....	884
<i>Manoj Kumar Senapati, Partha Sarathi Das, Kirti Pragya Samal, Jyotirajan Sahoo, Manoj Kumar Debnath</i>	
ELD and LFC Combined Investigation in a Multi-Area Power System Under Dynamics	890
<i>Manjit Bahadur Singh, Manoj Kumar Debnath, Prakash Chandra Sahu, Srikanta Mohapatra, Chinmoy Kumar Panigrahi, Subhra Debdas</i>	
Performance Assessment of Interconnected Power System with AHA Based Feedforward Control	896
<i>Amar Kumar Barik, Debasis Tripathy, Binod Kumar Sahu</i>	
Optimal Planning of CHP Embracing SDG Using CN2R Model for Multi-Residential Buildings- A Case Study of Chikkaballapur Taluk, Karnataka - India	902
<i>Bhabasis Mohapatra, Ritesh Dash, Jyotheeswara Reddy K, Sanhita Mishra, Binod Kumar Sahu</i>	
Energy Management in Electric Vehicles Using Function Fitting Neural Network Based Controller	908
<i>Avijit Nayak, Anshuman Satapathy, Niranjana Nayak, Binod Kumar Sahu, Sangram Keshari Routray</i>	
Design of a Fractional Order 2-DoF-PID Controller for Frequency Control in a Multi-Area Stand Alone Micro-Grid.....	914
<i>Narendra Kumar Jena, Subhadra Sahoo, Kumari Kasturi, Binod Kumar Sahu</i>	
Optimized PI Controller for DFIG Grid Integration Using Neural Tuning and Dense Plexus Terminals.....	920
<i>Bhabasis Mohapatra, K Jyotheeswara Reddy, Ritesh Dash, Arjyadhara Pradhan, Binod Kumar Sahu</i>	
Islanding Detection in PV-Grid System by Random Forest and Spectrogram Based LBP	926
<i>Ritu Singh, S. P. Shukla, Archana Panda, Subhendu Sekhar Sahoo, Subhendu Pati, Basant K Panigrahi</i>	
Utilizing Machine Learning for Lung Disease Diagnosis	932
<i>Ginoop Chennakkattu Markose, Surendar Rama Sitaraman, Sandra Vinay Kumar, Vikram Patel, Rajaa Jasim Mohammed, Chetansinh Vaghela</i>	

An Efficient Framework for EEG Signals Processing Using Backpropagation Multilayer Convolutional Neural Network for Brain Tumor Diagnosis.....	938
<i>Santamati Dash, Ahmed Raheem Rayshan, Moiz Abdul Hussain, P. Lakshmi Harika, Israa Abed Jawad</i>	
AI-Driven Fault Detection in Smart Grids	945
<i>S. Pradeep, C. R. Edwin Selva Rex, D. Kalaiyarasi, Ramya Dhandapani, M. Sakthivel, K. Vijaipriya</i>	
Leveraging Deep Learning for Improved Sentiment Analysis in Natural Language Processing	951
<i>Aniket Kulkarni, Venkata Surya Bhavana Harish Gollavilli, Zaid Alsalam, Manpreet Kaur Bhatia, Sashka Jovanovska, Md Nurul Absur</i>	
Machine Learning Approaches for Efficient Traffic Flow in Smart Cities.....	957
<i>Aniket Kulkarni, P. Anitha, John Yesudas Valluri, M V Sunena Rose, U Hemavathi, Omar M. Hussein</i>	

Author Index