

2021 IEEE 4th International Conference on Computing, Power and Communication Technologies (GUCON 2021)

**Kuala Lumpur, Malaysia
24 – 26 September 2021**

Pages 1-720



**IEEE Catalog Number: CFP21N57-POD
ISBN: 978-1-7281-9952-8**

**Copyright © 2021 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: | CFP21N57-POD |
| ISBN (Print-On-Demand): | 978-1-7281-9952-8 |
| ISBN (Online): | 978-1-7281-9951-1 |

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

| | |
|--|----|
| NOVEL ENERGY-BASED SPEED CONTROL OF GRID-CONNECTING PMSG WIND SYSTEM..... | 1 |
| <i>Youcef Belkhier, Thiziri Makhoulf, Rabindra Nath Shaw, Abdelyazid Achour, Mohit Bajaj</i> | |
| VISION-BASED SEMANTICS FOR SCENE COMPREHENSION..... | 7 |
| <i>Manzoor Ahmed Hashmani, Mehak Maqbool Memon, Muhammad Moinuddin Ansari, Kamran Raza</i> | |
| POL-SK BASED WDM-FSO COMMUNICATION SYSTEM FOR NETWORK ENHANCEMENT..... | 14 |
| <i>Divya Sisodiya, Shruti Dwivedi, Gurjit Kaur</i> | |
| DEEP LEARNING FOR HATE SPEECH DETECTION IN SOCIAL MEDIA..... | 19 |
| <i>Ashwini Kumar, Vishu Tyagi, Sanjoy Das</i> | |
| INTEGRATION OF EVS AGGREGATOR WITH MICROGRID AND IMPACT OF V2G POWER ON PEAK REGULATION | 23 |
| <i>Mohammad Amir, Zaheeruddin, Ahteshamul Haque</i> | |
| DESIGN OF TCSC BASED OPTIMAL WIDE AREA POWER SYSTEM STABILIZER FOR LOW-FREQUENCY OSCILLATION | 29 |
| <i>Abhineet Prakash, Priya Singh, Kundan Kumar, S. K. Parida</i> | |
| HYBRID MULTIPLEXING TECHNIQUE BASED ON WDM AND PDM WITH FOUR POLARIZATIONS..... | 35 |
| <i>Walid Sahraoui, Youcef Belkhier, Smail Berrah, Rabindra Nath Shaw, Angela Amphawan</i> | |
| FIELD ORIENTED CONTROL OF PERMANENT MAGNET SYNCHRONOUS MOTOR (PMSM) DRIVEN ELECTRIC VEHICLE AND ITS PERFORMANCE ANALYSIS | 39 |
| <i>Rijul Gora, Riddhiman Biswas, Rahul Kumar Garg, Uma Nangia</i> | |
| A MARKET FRAMEWORK FOR ENERGY BIDDING DECISION-MAKING STRATEGY TO PROVIDE A COMPETITIVE MECHANISM IN THE CONTEXT OF DEREGULATED ELECTRICITY MARKET | 45 |
| <i>Ahmed M. A. Haidar, Lai Carmen, Kashem M. Muttaqi</i> | |
| A UNIFIED FAULT LOCATION ALGORITHM FOR ONLINE AND OFFLINE APPLICATION IMMUNE TO SYNCHRONIZED MEASUREMENT ERRORS..... | 52 |
| <i>Kaustav Kalita, Shubham Anand, S. K. Parida</i> | |
| A NOVEL SVC BASED WIDE-AREA DAMPING CONTROLLER FOR INTER-AREA OSCILLATION..... | 58 |
| <i>Kundan Kumar, Abhineet Prakash, Priya Singh, S. K. Parida</i> | |
| ANALYSIS OF 13 NODES TEST FEEDER INTEGRATED WITH RENEWABLE ENERGY SOURCES AND ELECTRICAL VEHICLE | 64 |
| <i>Birendra Kumar, Anand Bihari, Shagufta Khan</i> | |
| BIG FIVE PERSONALITY TRAITS INFERENCE FROM FIVE FACIAL SHAPES USING CNN..... | 69 |
| <i>Kolhandai Yesu, Shivam Shandilya, Naveen Rekharaj, Kumar Ankit, Piniseti Swami Sairam</i> | |

| | |
|---|-----|
| INTERWEAVE DYNAMIC SPECTRUM SHARING FOR COGNITIVE ADHOC NETWORKS USING GENETIC OPTIMIZATION ALGORITHM | 75 |
| <i>Sofia D Sumithra, Edward A Shirly</i> | |
| MENTAL HEALTH ANALYSIS DURING COVID-19: A COMPARISON BEFORE AND DURING THE PANDEMIC | 81 |
| <i>Gurshaan Singh Bajaj, Harsh Yadav, Harshdeep Singh Sahdev, Sudhanshu Sah, Preeti Kaur</i> | |
| ANALYSIS AND DESIGN OF A SWITCHED-CAPACITOR AND SWITCHED-INDUCTOR NETWORK BASED HIGH-GAIN DC-DC CONVERTER..... | 88 |
| <i>Prabhat Kumar, Amritesh Kumar</i> | |
| A SURVEY ON COVID-19 FACE-MASK DETECTION TECHNIQUES | 93 |
| <i>Raj Gorhekar, Chaitya Shah, Viraj Shah, Pramod J. Bide</i> | |
| STUDY AND PREDICTION ANALYSIS OF THE EMPLOYEE TURNOVER USING MACHINE LEARNING APPROACHES | 99 |
| <i>Raj Chakraborty, Krishna Mridha, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| CONCEPTUAL SEARCH FOR PATENT SIMILARITY MATCH..... | 105 |
| <i>Priyanshu Sinha, Rishabh Tripathi, Sthita Pragyan Pujari, Rakesh Ch. Balabantaray, Prabhjit Thind, Satya Narayan Kar</i> | |
| FILTER CHARACTERISTIC OF A TRIANGULAR PERIODIC TRANSMISSION LINE IN MICRO-STRIP STRUCTURE..... | 110 |
| <i>Prashnatita Pal, Bikash Chandra Sahana, Jayanta Poray, Supriyo Sengupta</i> | |
| A HYBRID MODEL TO INVESTIGATE PERCEPTION TOWARDS ADOPTION OF AUTONOMOUS VEHICLES IN INDIA | 116 |
| <i>Anshul Bhardwaj, Yogesh Kumar, Nitasha Hasteer</i> | |
| ANOMALY DETECTION IN IOT NETWORK USING DEEP NEURAL NETWORKS | 121 |
| <i>Deepanshu Singhal, Jasraj Meena</i> | |
| ENERGY EFFICIENT RESOURCE ORCHESTRATION IN FOG-ENABLED CONNECTED VEHICLE NETWORKS USING DEEP REINFORCEMENT LEARNING | 127 |
| <i>Ch Sudhakar, Gullapalli Saisurya Revanth, Katpally Rithik Reddy, Battula Raja Shekar</i> | |
| A NEW H8 TRANSFORMER-LESS SINGLE PHASE GRID-TIED SOLAR PV INVERTER TO SUPPRESS LEAKAGE CURRENT | 133 |
| <i>Md. Faruk Kibria, Mohua Biswas, Shuvra Prokash Biswas, Md. Rabiul Islam</i> | |
| FUZZY LOGIC BASED MAXIMUM POWER POINT TRACKING SCHEME FOR PV SYSTEM USING P-V AND I-V CHARACTERISTICS | 138 |
| <i>Avinash Kumar Pandey, Varsha Singh, Sachin Jain</i> | |
| ELDIARY: A DIGITAL DIARY MOBILE APPLICATION INTEGRATED WITH EMOTION RECOGNITION FOR ELDERLY | 144 |
| <i>Mohamad Yusairi Yusuf Yap, Azaliza Zainal, Nahdatul Akma Ahmad</i> | |
| TRENDS OF ACCURACY ON DIABETIC RETINOPATHY CONSIDERING EPOCH EFFECT AND BAYES ERROR | 150 |
| <i>Shivam Sinha, Sanket Saxena, Shruti Jain</i> | |
| REAL TIME SIMULATION STUDY UPON THE IMPACT OF DFIG INTERCONNECTED DC MICROGRID ON THE DISTRIBUTION SYSTEM | 156 |
| <i>M V Gururaj, Rashmi Prasad, Narayana Prasad Padhy</i> | |

| | |
|--|-----|
| THREE PHASE GRID CONNECTED PV BASED EV CHARGING STATION WITH CAPABILITY OF COMPENSATION OF REACTIVE POWER..... | 161 |
| <i>Vandana Jain, Seema, Bhim Singh</i> | |
| PHISHING URL CLASSIFICATION ANALYSIS USING ANN ALGORITHM..... | 167 |
| <i>Krishna Mridha, Jahid Hasan, Saravanan D, Ankush Ghosh</i> | |
| ADAPTIVE SQUARE ROOT CUBATURE QUADRATURE KALMAN SMOOTHER FOR NONLINEAR STATE ESTIMATION..... | 174 |
| <i>Aritro Dey</i> | |
| PERFORMANCE ANALYSIS OF VARIOUS MEMBERSHIP FUNCTIONS USING ANFIS FOR THE DETECTION OF TYPE-II DIABETES..... | 180 |
| <i>Parvathy Dharmarajan, B. Rajathilagam</i> | |
| ON THE PERFORMANCE ANALYSIS OF DOWNLINK NOMA SYSTEM OVER NON- HOMOGENOUS FADING CHANNEL..... | 185 |
| <i>Shaika Mukhtar, Gh. Rasool Begh</i> | |
| A SECURED DISTRIBUTED LEDGER BASED FUNDRAISING FRAMEWORK USING SMART CONTRACTS..... | 191 |
| <i>Darshan M, S. R Raswanth, Sundeep V V S Akella, Priyanka Kumar</i> | |
| A NEW PROTECTION ALGORITHM BASED ON SUPERIMPOSED LOAD CURRENT IN DC MICROGRID..... | 196 |
| <i>Pooja Chauhan, C. P Gupta, Manoj Tripathy</i> | |
| ML BASED QSAR MODELS FOR PREDICTION OF PHARMACOLOGICAL PERMEABILITY OF CACO-2 CELL..... | 203 |
| <i>Sai Likitha, Sowmya Kamath S</i> | |
| DIVERSITY COMBINING TECHNIQUES IN INDOOR VLC COMMUNICATION..... | 209 |
| <i>Vishal Narain Saxena, Juhi Gupta, Vivek K. Dwivedi</i> | |
| MULTIPATH ROUTING IN TRANSPARENT SPONTANEOUS MANET..... | 213 |
| <i>Antima Jain, Anand Singh Rajawat, Rabindra Nath Shaw, Vishesh Kumar Mishra</i> | |
| BACKUP PROTECTION FOR MUTUALLY COUPLED DOUBLE-CIRCUIT MULTISECTION NONHOMOGENEOUS TRANSMISSION LINES USING WIDE-AREA MEASUREMENTS..... | 219 |
| <i>Shubham Anand, Kaustav Kalita, Sanjoy Kumar Parida</i> | |
| MATCHED FILTERING WITH GAUSSIAN WINDOWED FREQUENCY MODULATED THERMAL WAVE IMAGING FOR NON-DESTRUCTIVE TESTING AND EVALUATION OF MILD STEEL SAMPLE..... | 225 |
| <i>Anju Rani, Ravibabu Mulaveesala</i> | |
| MODIFIED INTERNAL MODEL CONTROL FOR CART INVERTED PENDULUM SYSTEM..... | 230 |
| <i>Sumit Kumar Pandey, Jayati Dey, Subrata Banerjee</i> | |
| RELIABILITY IMPROVEMENT OF POWER DEVICES FOR ELECTRIC VEHICLE TRACTION..... | 235 |
| <i>Syed Mohammad Adnan, Ahteshamul Haque, V S Bharath. K</i> | |
| ECONOMIC DISPATCH OF MULTI-DG ISLANDED MICROGRID WITH BATTERY STORAGE INTEGRATION..... | 241 |
| <i>Mudaser Rahman Dar, Neeraj Gupta, Javed Dhillon, Anuradha Tomar</i> | |

| | |
|---|-----|
| A COMPARATIVE ANALYSIS OF DIFFERENT LAND-USE AND LAND-COVER CLASSIFIERS USING HYPERSPECTRAL DATA | 247 |
| <i>Neelam Dahiya, Sheifali Gupta, Sartajvir Singh</i> | |
| SLIDING MODE CONTROL OF TWO-SWITCH BUCK BOOST NON-ISOLATED ON-BOARD BATTERY CHARGER..... | 252 |
| <i>Bonela Anil Kumar, Mrinal Kanti Sarkar</i> | |
| EFFECT OF HARVESTING UNPREDICTABILITY OF RESOURCES IN ENERGY HARVESTING-WSN | 258 |
| <i>Manoj Kumar, Sushil Kumar, Pankaj Kashyap</i> | |
| FUZZY K-MEANS CLUSTERING (FKMC) TO MAXIMIZE THE ENERGY EFFICIENCY IN SENSOR-ENABLED INTERNET OF THINGS..... | 263 |
| <i>Pankaj Kashyap, Ankita Jaiswal, Manoj Kumar</i> | |
| GREEN COMMUNICATION: OPTIMAL CHARGER DEPLOYMENT BASED ON TBM (OCD-TBM) IN IOT | 269 |
| <i>Ankita Jaiswal, Pankaj Kashyap, Sushil Kumar</i> | |
| A BACK-TRANSLITERATION BASED MANIPURI MEETEI MAYEK KEYBOARD IME..... | 275 |
| <i>Gourashyam Moirangthem, Kishorjit Nongmeikapam</i> | |
| POWER MANAGEMENT AND CONTROL FOR PV-BATTERY STANDALONE SYSTEM | 281 |
| <i>Sonali Badpanda, Jayati Dey, Tapas Kumar Saha</i> | |
| PLANNING OF EV CHARGING STATION WITH RENEWABLE BASED GENERATION IN AN OVERLAID NETWORK CONSIDERING UNCERTAINTY AND TRAFFIC FLOW | 288 |
| <i>Arnab Pal, Aniruddha Bhattacharya, Ajoy Kumar Chakraborty</i> | |
| DESIGN AND PERFORMANCE ANALYSIS OF OPTIMIZED FRACTIONAL ORDER PID CONTROLLER FOR MAGNETIC LEVITATION SYSTEM | 294 |
| <i>Soham Dey, Subrata Banerjee, Jayati Dey</i> | |
| AUTO-TUNED OPTIMAL PI CONTROLLERS FOR MIMO PROCESSES..... | 300 |
| <i>Sayani Sengupta, Chanchal Dey</i> | |
| A SYSTEMATIC APPROACH FOR ENGLISH- HINDI PARALLEL DATABASE CREATION FOR TRANSLITERATION OF GENERAL DOMAIN ENGLISH WORDS | 306 |
| <i>Radha Mogla, C. Vasantha Lakshmi, Niladri Chatterjee</i> | |
| DUAL HISTOGRAM BASED RVIN DETECTOR AND HYBRID GAUSSIAN FILTER..... | 311 |
| <i>Ram Narayan Patro, Harish Kumar Sahoo, Pradyut Kumar Biswal</i> | |
| AFFTOGI CONTROL FOR POWER QUALITY IMPROVEMENT AND SEAMLESS TRANSITION IN GRID-TIED SPV-BES SYSTEM | 319 |
| <i>Vikas Kumar, Gaurav Modi, Bhim Singh</i> | |
| INVESTIGATION ON COVID-19 BY USING MACHINE LEARNING TECHNIQUES | 326 |
| <i>Suresh K, Adwitiya Mukhopadhyay</i> | |
| CHIMP OPTIMIZED CORRENTROPY INSPIRED VARIABLE STEP-SIZE SIGN ALGORITHM BASED VSC CONTROL OF GRID-TIED PV-BATTERY STORAGE SYSTEM..... | 331 |
| <i>Mukul Chankaya, Ikhlraq Hussain, Aijaz Ahmad, Bhim Singh</i> | |

| | |
|--|-----|
| NON-LINEAR SYSTEM IDENTIFICATION USING HAMMERSTEIN-WIENER MODEL FOR HYPOTHETICAL SYSTEM..... | 337 |
| <i>Vikas Kumar, Yogender Kumar, Kriti Rai, Manjeet Kumar</i> | |
| CONTROL OF A PUMPED HYDRO STORAGE POWER PLANT SUPPORTED SOLAR PV GENERATION SYSTEM FOR GRID-SIDE ENERGY MANAGEMENT | 342 |
| <i>Mukundan C. M. Nirmal, M. Sruthi, P. Jayaprakash</i> | |
| SCHEME INVISIBLE INTERNET PROTOCOL (I2P) USING BLOCKCHAIN TECHNIQUES FOR TRACKING DARKWEB USER ACTIVITIES..... | 348 |
| <i>Anand Singh Rajawat, Kanishk Barhanpurkar, Debajyoti Mukhopadhyay, Ankush Ghosh</i> | |
| IMPACT ANALYSIS OF INDUSTRY 4.0 ON REALTIME SMART PRODUCTION PLANNING AND SUPPLY CHAIN MANAGEMENT | 353 |
| <i>Pradeep Bedi, Kamal Upreti, Anand Singh Rajawat, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| DESIGN AND CONTROL OF AN ELECTRIC VEHICLE EQUIPPED WITH PERMANENT MAGNET SYNCHRONOUS MACHINE..... | 359 |
| <i>Thiziri Makhlof, Abdelyazid Achour, Youcef Belkhier, Rabindra Nath Shaw</i> | |
| ANFIS BASED SPEED AND CURRENT CONTROLLER FOR SWITCHED RELUCTANCE MOTOR | 364 |
| <i>Jayanta Mukhopadhyay, Sumana Choudhury, Samarjit Sengupta</i> | |
| POSSIBLE ROLE OF AI AND IOT IN SMART BUILDINGS | 370 |
| <i>Raiha Arshad, Habib Khan Tareen</i> | |
| AN ENERGY EFFICIENT LOCALIZATION OF THE SENSORY NODES BASED ON SECURE ROUTING PROTOCOL FOR UNDERWATER NETWORK | 377 |
| <i>Pushpendra R Verma, Amit Kumar, Rakesh Ranjan</i> | |
| IMAGE COMPRESSION USING HUFFMAN CODING SCHEME WITH PARTIAL/PIECEWISE COLOR SELECTION | 386 |
| <i>A. H. M. Zaidul Karim, Md. Sazal Miah, Md Abdullah Al Mahmud, Muhammad Towhidur Rahman</i> | |
| PERMISSION BLOCKCHAIN NETWORK BASED CENTRAL BANK DIGITAL CURRENCY | 392 |
| <i>Bhawana, Sushil Kumar</i> | |
| INTELLIGENT BASED WASTE MANAGEMENT AWARENESS DEVELOPED BY TRANSFER LEARNING | 398 |
| <i>Krishna Mridha, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| QSAR CLASSIFICATION MODELS FOR PREDICTING 3CLPRO-PROTEASE INHIBITOR ACTIVITY | 403 |
| <i>Kushal Mondal, Sowmya Kamath S</i> | |
| PREDICTIVE ANALYSIS OF CLASSIFICATION ALGORITHMS ON BANKING DATA..... | 409 |
| <i>Krishan Kumar Pandey, Abhishek Giri, Saket Sharma, Anurag Singh</i> | |
| AUTOEVAL: A NLP APPROACH FOR AUTOMATIC TEST EVALUATION SYSTEM | 414 |
| <i>Mayank Agarwal, Ritika Kalia, Vedant Bahel, Achamma Thomas</i> | |
| SEAMLESS TRANSITION OF PV-BES MICROGRIDS WITH POWER QUALITY IMPROVEMENT CAPABILITY | 420 |
| <i>Pavitra Shukl, Bhim Singh</i> | |

| | |
|--|-----|
| ML BASED STRATEGY FOR OPTIMAL POWER PREDICTION IN IOT..... | 426 |
| <i>Manoj Kumar, Sushil Kumar, Intayaz Alam</i> | |
| MULTIFUNCTIONAL CONTROL STRATEGY TO PREVENT MICROGRID BLACKOUT | 432 |
| <i>Farheen Chishti, Bhim Singh</i> | |
| IOT BASED PROTECTION OF MICROGRID WITH GRID-CONNECTED AND ISLANDED MODE USING WAVELET APPROACH..... | 439 |
| <i>K. V. Dhana Lakshmi, G. Ravi Kumar, Jbv Subrahmanyam</i> | |
| VARIABLE SPARSITY AFFINE COMBINED ADAPTIVE CONTROL TECHNIQUE FOR GRID TIED THREE PHASE SINGLE STAGE CHARGING STATION | 445 |
| <i>Shailendra Kumar, Dulichand Jaraniya, Bhim Singh</i> | |
| MODEL PREDICTIVE CONTROLLER BASED VIRTUAL SYNCHRONOUS GENERATOR IN A MICROGRID | 451 |
| <i>Deeksha Singh, K. Seethalekshmi</i> | |
| DECODING WITH PURPOSE: IMPROVING IMAGE RECONSTRUCTION FROM FMRI WITH MULTITASK LEARNING | 457 |
| <i>Abhi Lad, Reema Patel</i> | |
| IMPACT OF SOLAR AND WIND ENERGIES ON DISTANCE PROTECTION OF TRANSMISSION LINES | 463 |
| <i>Ahmad A. Aljabery, Hasan Mehrjerdi, Atif Iqbal</i> | |
| HIGH-EFFICIENCY AND HIGH-GAIN SWASTIK SHAPE SLOTTED MICROSTRIP PLANAR ANTENNA WITH SUSPENDED GROUND FOR 5G WIRELESS APPLICATIONS | 469 |
| <i>Aditya Dilip Jaiswal, S J Vignesh, Aakarsh Mekap, Dinesh Yadav</i> | |
| PARADIGM SHIFT ON CHOICE OF FLUX INTEGRATORS IN HIGH FREQUENCY POWER TRANSFORMERS | 475 |
| <i>Arun Kumar Paul</i> | |
| AN EFFICIENT SINGLE-PHASE TRANSFORMER-LESS GRID-TIED PHOTOVOLTAIC INVERTER TO REDUCE LEAKAGE CURRENT AND IMPROVE POWER QUALITY | 482 |
| <i>Md. Faruk Kibria, Mohua Biswas, Shuvra Prokash Biswas, Md. Rabiul Islam</i> | |
| OPTIMAL PLANNING STRATEGY FOR ELECTRIC VEHICLE CHARGING STATION INTEGRATED WITH BATTERY BACKED SOLAR PHOTOVOLTAIC SYSTEM IN DISTRIBUTION NETWORK | 488 |
| <i>Amaresh Gantayet, Tanweer Raza, Dharmendra Kumar Dheer</i> | |
| BEACON-BASED APPROACH FOR TARGET LOCALIZATION IN NLOS CONDITION FOR N-BOUNCE REFLECTIONS | 494 |
| <i>Muhammad Hassan Fares, Hadi Moradi, Mahmoud Shahabadi, Yasser Mohanna</i> | |
| SUPERTWISTING SLIDING MODE CONTROL OF MULTI-CONVERTER MVDC POWER SYSTEMS UNDER CONSTANT POWER LOADS | 500 |
| <i>Irfan Sami, Arzam Abid, Naseer Khan, Malik Muhammad Zaid, Hamza Ahmad, Hamid Ali</i> | |
| PHOTODETECTOR BASED ZNONPS/BIFEO ₃ FERROELECTRIC PEROVSKITE HETEROJUNCTION..... | 505 |
| <i>Rishibrind Kumar Upadhyay, Satyabrata Jit</i> | |

| | |
|---|-----|
| PARAMETER BASED PERFORMANCE EVALUATION OF DEEP LEARNING MODELS FOR CLASSIFICATION OF COVID AND PNEUMONIA CT IMAGES..... | 509 |
| <i>Hari Priyanka Chilakalapudi, Ramya Venkatesan, Yedukondalu Kamatham</i> | |
| FREQUENCY TUNABLE SLOT ANTENNA FOR WIRELESS APPLICATIONS | 515 |
| <i>Summaiyya Saleem, Sarita Kumari, Dinesh Yadav, Deepak Bhatnagar</i> | |
| LOAD FLOW ANALYSIS OF ISLANDED MICROGRIDS | 519 |
| <i>Ashiq Hussain Lone, Neeraj Gupta</i> | |
| STUDENTS ATTENTION MONITORING AND ALERT SYSTEM FOR ONLINE CLASSES USING FACE LANDMARKS | 525 |
| <i>Mukul Lata Roy, D. Malathi, J. D. Dorathi Jayaseeli</i> | |
| FRACTIONAL ORDER MODELLING AND ANALYSIS OF UTILITY GRID CONNECTED AND AUTONOMOUS MODES FOR DISTRIBUTED POWER GENERATION | 531 |
| <i>D. Govind, H. M. Suryawanshi, P. P. Nachankar, Chintalpudi L. Narayana</i> | |
| STEADY STATE ANALYSIS OF DISTRIBUTION SYSTEM WITH WIND AND SOLAR UNDER VARIOUS ELECTRIC VEHICLE LOAD MODELS | 537 |
| <i>Nasir Rehman, M. D. Mufti, Neeraj Gupta</i> | |
| IMPROVED POWER QUALITY MULTIFUNCTIONAL SOLAR PV-BATTERY BASED MICROGRID INTERFACED TO UTILITY GRID/DIESEL GENERATOR SET FOR UNINTERRUPTED POWER | 543 |
| <i>Vivek Narayanan, Bhim Singh</i> | |
| DOUBLE SIDED FISH EDGED SLOTTED ELECTROMAGNETICALLY COUPLED 5G MIMO ANTENNA WITH A SUSPENDED GROUND | 550 |
| <i>Ayush Sharda, Pranjal Wadhwa, Dinesh Yadav</i> | |
| MODIFIED POPULATION EXTREMAL OPTIMIZATION BASED PID NEURAL NETWORK FOR ISLANDED MICROGRID SYSTEM..... | 555 |
| <i>Md. Mahmudul Hasan, M. S. Rana</i> | |
| DESIGN AND ANALYSIS OF TWO-INPUT SINGLE-OUTPUT DC-DC CONVERTER..... | 561 |
| <i>Mummadi Veerachary, Narayan Yadav</i> | |
| A TRANSFORMERLESS SWITCHED-CAPACITOR SWITCHED-INDUCTOR HIGH GAIN DC-DC CONVERTER..... | 567 |
| <i>Abbas Syed Nooruddin, Shahrukh Khan, Arshad Mahmood, Mohammad Zaid, Javed Ahmad, Mohd Tariq, Adil Sarwar</i> | |
| MOBILE APPLICATION DESIGN FOR AMBIDEXTROUS TRAINING-HAND SWITCHING..... | 573 |
| <i>Patel Shefali, Singh Sneha</i> | |
| EXPANDABLE DC/DC TOPOLOGY WITH LARGE VOLTAGE CONVERSION GAIN | 579 |
| <i>Zahra Saadatizadeh, Pedram Chavoshpour Heris, Md Rabiul Islam, Ebrahim Babaei</i> | |
| RESILIENT CONTROL ALGORITHM FOR WIND-HYDRO BASED DISTRIBUTED GENERATION SYSTEM WITH GRID SYNCHRONIZATION CAPABILITY | 584 |
| <i>Rohini Sharma, Bhim Singh</i> | |
| PERFORMANCE ANALYSIS OF BEARING FAULT DIAGNOSIS USING CONVOLUTIONAL NEURAL NETWORK..... | 591 |
| <i>Mohammad Mohiuddin, Md. Saiful Islam, Md. Humayun Kabir</i> | |

| | |
|---|-----|
| PERMANENT MAGNET OPTIMIZATION BASED DESIGN OF PMLDC MOTOR FOR SENSORLESS SINGLE STAGE SIWP | 597 |
| <i>Aryadip Sen, Bhim Singh</i> | |
| PICTURE TALES: AN APPROACH FOR STORY GENERATION USING A SERIES OF IMAGES..... | 604 |
| <i>Khushi Gala, Mansi Somaiya, Manvi Gopani, Abhijit Joshi</i> | |
| DESIGN AND ANALYSIS OF TWO-QUADRANT DC-DC CONVERTER | 609 |
| <i>Mummadi Veerachary, Satish Kumar Paturi</i> | |
| DESIGN OPTIMIZATION OF PM SYNCHRONOUS MOTOR USED IN BELT DRIVE ELEVATOR SYSTEMS | 615 |
| <i>Yusuf Avsar, Ahmet Fenercioglu, Mucahit Soyaslan</i> | |
| NUMERICAL ANALYSIS OF THE IMPACT OF GATE GEOMETRY VARIATIONS ON THE RELIABILITY OF ALGAN/GAN HEMT | 620 |
| <i>Sushanta Bordoloi, Ashok Ray, Gaurav Trivedi</i> | |
| IOT-BASED LOW-COST REMOTE PATIENT MONITORING AND MANAGEMENT SYSTEM WITH DEEP LEARNING-BASED ARRHYTHMIA AND PNEUMONIA DETECTION..... | 625 |
| <i>Farhan Ishtiaque, Sadman Rahman Sadid, Mohammed Shihab Kabir, Syeda Omia Ahalam, Md. Sharjis Ibne Wadud</i> | |
| A ROBUST DESIGN METHODOLOGY WITH FEA OF SRM FOR EFFICIENT HEAVY DUTY EXHAUST FAN APPLICATION | 631 |
| <i>Vipin Kumar Singh, Utkarsh Sharma, Bhim Singh</i> | |
| GEOMETRIC CONSTELLATION SHAPED NON-LINEARITY TOLERANT OPTICAL COMMUNICATION SYSTEM..... | 637 |
| <i>Zahid G Khaki, Gausia Qazi</i> | |
| PERFORMANCE COMPARISON OF ENHANCE BOOST QUASI Z SOURCE INVERTER WITH LINEAR AND NON-LINEAR LOADS..... | 643 |
| <i>Saloni Mishra, Anurag Tripathi, Bharti Dwivedi</i> | |
| A NEW TRISWITCHING DOUBLE DUTY HIGH VOLTAGE GAIN BOOST CONVERTER FOR DC NANOGRID APPLICATION | 649 |
| <i>Atif Iqbal, Sheetal Gore, Pandav Kiran Maroti, Mohammed Meraj, Mousa Marzband</i> | |
| COUPLED-INDUCTOR-BASED SWITCHED QUASI IMPEDANCE-SOURCE-INVERTER WITH SUPERIOR BOOSTING ABILITY | 655 |
| <i>Ajaykumar T, Nita R. Patne, Rajshri Satputaley, P. Sumanth, Ashwini D. Manchalwar</i> | |
| TEETH SHAPED MICROSTRIP ANTENNA FOR BREAST HYPERTHERMIA..... | 662 |
| <i>Jaswantsing Laxmansing Rajput, Anil Bapusa Nandgaonkar, Sanjay Laxmikant Nalbalwar, Abhay Eknath Wagh, Mahesh Madanrao Munde, Nagraj G Huilgol</i> | |
| IMPROVED STANDALONE PMSG BASED WIND-GENERATING SYSTEM USING MPPT AND MRAS FOR SPEED ESTIMATION..... | 668 |
| <i>Mahmoud F. Elmorshedy, Md Rabiul Islam, Mosaad M. Ali, Fayez F. M. El-Sousy, Mahmoud M. Amin</i> | |

| | |
|---|-----|
| AN INTEGRAL SLIDING MODE CONTROL DRIVEN HYBRID SYSTEM EMPLOYING IMPROVED LEAST MEAN SQUARE ALGORITHM FOR DYNAMIC PERFORMANCE IMPROVEMENT OF HYBRID SYSTEMS..... | 674 |
| <i>Masood Ibni Nazir, Ikhlaiq Hussain, Aijaz Ahmad, Bhim Singh</i> | |
| A COMPARATIVE ANALYSIS OF ALGORITHMS FOR PEDESTRIAN TRACKING USING DRONE VISION..... | 680 |
| <i>Poluri Nikhil Koundinya, Nt Sanjukumar, P Rajalakshmi</i> | |
| INTERACTION QUANTIFICATION IN MULTI-INPUT MULTI-OUTPUT INTEGRATED DC-DC CONVERTERS | 686 |
| <i>Shreyansh Upadhyaya, M. Veerachary</i> | |
| OPTIMIZING VIDEO COMPRESSION & DECOMPRESSION USING DEEP LEARNING NETWORKS..... | 692 |
| <i>Singaraju Venkata Pranav, Perumallapalli Suraj, Nitin Pothineni, K. V. Kadambari, Priyadarshini Balasubramanyam</i> | |
| LITHIUM-ION BATTERY PROGNOSTICS BASED ON SUPPORT VECTOR REGRESSION AND TIME-SERIES ANALYSIS | 698 |
| <i>Harsh S. Dhiman, Dipankar Deb, S M Muyeen</i> | |
| AN EFFICIENT SENSORLESS SPEED-CONTROL OF IM DRIVE SYSTEM WITH DIFFERENT ROTOR CONFIGURATIONS | 702 |
| <i>Mohamed G. Hussien, Md. Rabiul Islam, Yi Liu, Wei Xu</i> | |
| AN EFFICIENT MONTHLY LOAD FORECASTING MODEL USING GAUSSIAN PROCESS REGRESSION | 708 |
| <i>Anamika Yadav, Ayush Kumar, Rudra Pratap Singh Rana, Maya Chandrakar, Mohammad Pazoki, Ragab A. El Sehiemy</i> | |
| INVESTIGATION ON THE CAPABILITIES OF ANFIS FOR THE DETECTION OF ISCHEMIC STROKE | 716 |
| <i>Srinidhi R, Sri Lakshmi S, Yamini G, R Chethana, Adarsh S</i> | |
| AUTISM SCREENING DISORDER: EARLY PREDICTION..... | 721 |
| <i>Tamanna Yesmin Rashme, Linta Islam, Ayesha Aziz Prova, Sohely Jahan</i> | |
| FEATURE EVALUATION FOR SEIZURE PREDICTION USING EEG..... | 727 |
| <i>Sana Ahmad, Nidal Rafiuddin, Yusuf Uzzaman Khan</i> | |
| JOMATTENDANCE: MY FACE IS THE ATTENDANCE..... | 733 |
| <i>S. R. Chow, P. S. Josephng, K. Y. Phan, Y. P. Yeck</i> | |
| DETECTION OF MALWARE USING DEEP LEARNING..... | 739 |
| <i>Sabila Newaz, Hasan Md Imran, Xingya Liu</i> | |
| AN ANALYTICAL SURVEY OF DEFUZZIFICATION TECHNIQUES..... | 743 |
| <i>Anup Kumar Mallick, Achintya Das</i> | |
| MACHINE LEARNING BASED DETECTION OF CYBER CRIME HUB ANALYSIS USING TWITTER DATA | 749 |
| <i>Vinod Mahor, Romil Rawat, Shrikant Telang, Bhagwati Garg, Debajyoti Mukhopadhyay, Prajyot Palimkar</i> | |
| JOMAR: REALITY PURCHASING EXPERIENCES | 754 |
| <i>J. R. Prasajo, P. S. Josephng, K. Y. Phan, J. T. Lim</i> | |

| | |
|---|-----|
| A SWITCHED CAPACITOR-COUPLED INDUCTOR BASED HIGH GAIN BUCK CONVERTER WITH POWER FACTOR PRE-REGULATOR FOR LEVS CHARGING APPLICATION..... | 760 |
| <i>Jitendra Gupta, Bhim Singh</i> | |
| OVERVIEW OF CONTROL STRATEGIES FOR MULTIPHASE MOTOR DRIVE SYSTEMS..... | 766 |
| <i>Zhuoqun Wu, Hao Ding, Zhengwei Qu, Xiaoqiang Guo, Changchun Hua, Sanjeevikumar Padmanaban, Zhiyu Lu, Maxim Popov</i> | |
| AMERICAN SIGN LANGUAGE RECOGNITION USING CONVOLUTIONAL NEURAL NETWORK..... | 775 |
| <i>Sadaf Ikram, Namrata Dhanda</i> | |
| CYBER SECURITY ISSUE IN SMART GRID..... | 787 |
| <i>Vatan Kumar, C. P. Gupta</i> | |
| VOLTAGE PROFILING AND CONTROL OF A SUB-TRANSMISSION NETWORK WITH INTEGRATED RENEWABLE ENERGY SOURCES-A CASE STUDY..... | 796 |
| <i>Sheetal Gore, Atif Iqbal, Hasan Mehrjerdi, Mohammed Meraj</i> | |
| CONTACT LIFE OF 400V CLASS LOW VOLTAGE DC SWITCHES | 802 |
| <i>Hyosung Kim</i> | |
| DESIGN OF LOW-POWER DDR CONTROLLER AND DRAM FOR DEEP LEARNING AND SERVER APPLICATIONS | 806 |
| <i>Arjun R, Deeksha Chaudhary, Atin Mukheerjee</i> | |
| ARC SAFE OPERATION AREA OF LOW VOLTAGE DC SYSTEM..... | 812 |
| <i>Yong Joong Kim, Hyosung Kim</i> | |
| ML-LMS CONTROL USING FOR SPVGC SYSTEM | 816 |
| <i>Sunaina Singh, Seema, Bhim Singh, B. K. Panigrahi</i> | |
| AI-BASED HEART MONITORING SYSTEM..... | 822 |
| <i>Udaya Dampage, Charuth Balasuriya, Supun Thilakarathna, Dhahan Rathnayaka, Lahiru Kalubowila</i> | |
| THERMISTOR BASED AUTOMATED URINE VOLUME DETECTION METHOD..... | 828 |
| <i>L. G. Y. Piyapema, R. A. K. C. Ranasinghe, A. P. N. Madushika, Chathura Rathnayake, Janaka Wijayakulasooriya, Ruwan Ranaweera</i> | |
| IMPLEMENTATION OF SEQUENCE DETECTOR USING OPTIMIZED GDI TECHNIQUE..... | 833 |
| <i>Prasanna Kumar K, Kishore Sanapala, V S V Prabhakar, D. Pavan</i> | |
| A DEEP LEARNING BASED HYBRID APPROACH FOR DDOS DETECTION IN CLOUD COMPUTING ENVIRONMENT | 840 |
| <i>A. Rama Krishna Kowsik, R. K. Pateriya, Priyanka Verma</i> | |
| CENTRAL SITUATIONAL AWARENESS SYSTEM FOR RESILIENCY ENHANCEMENT OF INTEGRATED ENERGY SYSTEMS..... | 846 |
| <i>Masoud Zadsar, Ahmadreza Abazari, Mostafa Ansari, Mohsen Ghafouri, S. M. Muyeen, Frede Blaabjerg</i> | |
| PERFORMANCE COMPARISON OF SINGLE-PHASE OPEN-LOOP GRID SYNCHRONIZATION TECHNIQUES | 852 |
| <i>S. Chandrasekaran</i> | |

| | |
|--|-----|
| MULTIBAND MICROSTRIP TEXTILE ANTENNA FOR WIFI/WIMAX/5G COMMUNICATION | 857 |
| <i>Husain Bhaldar, Sanjay Kumar Gowre, Mahesh M Mathpati, Mainaz S Ustad, Ashish A Jadhav, Pavan Mankal</i> | |
| SIX-PHASE POWER CONVERSION FROM A SINGLE-PHASE SUPPLY WITHOUT ANY ENERGY STORAGE INTERMEDIATE FOR INDUCTION MOTOR CONTROL | 867 |
| <i>Manoj A. Waghmare, B. S. Umre, M. V. Aware, Anup Kumar</i> | |
| AN 11-LEVEL CASCADED SWITCHED DIODE MULTILEVEL INVERTER TOPOLOGY USING DUTY CYCLE SWAPPING FOR RE GRID INTEGRATION | 873 |
| <i>Radha, Vani Bhargava, Bhupal Singh</i> | |
| ENHANCED POWER QUALITY BLDCM CEILING FAN..... | 882 |
| <i>Amit Kumar, Bhim Singh</i> | |
| MULTI-DOMAIN BEARING FAULT DIAGNOSIS USING SUPPORT VECTOR MACHINE..... | 888 |
| <i>Rismaya Kumar Mishra, Anurag Choudhary, Amiya Ranjan Mohanty, Shahab Fatima</i> | |
| INTER TURN SHORT CIRCUIT FAULT ANALYSIS OF FIVE-PHASE PMSM..... | 894 |
| <i>Sabna M, Mini V P, S. Ushakumari, Mayadevi N, Harikumar R, Vijayasree G</i> | |
| VARIABLE STEP PERTURB AND OBSERVE ALGORITHM FOR STANDALONE SOLAR PHOTOVOLTAIC (PV) SYSTEM..... | 900 |
| <i>Jatin Yadav, Sunil Yadav, M. T. Shah</i> | |
| REAL ESTATE PRICE PREDICTION USING DATA MINING TECHNIQUES | 906 |
| <i>Sayar Kumar Dey, Siddhaling Urolagin</i> | |
| A COMPREHENSIVE PLANNING AND ANALYSIS OF COORDINATED CHARGING SCHEDULING FOR ON-ROAD ELECTRIC VEHICLES | 910 |
| <i>Sourav Das, Parimal Acharjee, Aniruddha Bhattacharya</i> | |
| A POSITIVE OUTPUT STEP UP BOOST CONVERTER FOR RENEWABLE ENERGY APPLICATIONS..... | 916 |
| <i>Shahrukh Khan, Arshad Mahmood, Mohd Tariq, Javed Ahmad, Mohammad Zaid, Adil Sarwar, M. Muktafi Ali Khan</i> | |
| SELECTING A FAMILY PLANNING METHOD FOR VARIOUS AGE GROUPS OF DIFFERENT STATES IN INDIA | 922 |
| <i>Jyoti Gautam, Nitima Malsa, Saumya Gautam, Nitin K Gaur, Priyabrata Adhikary, Shivani Pathak</i> | |
| PERFORMANCE ANALYSIS OF MACHINE LEARNING ALGORITHMS FOR PREDICTION OF LIVER DISEASE..... | 928 |
| <i>Vinayak Singh, Mahendra Kumar Gourisaria, Himansu Das</i> | |
| MINIMUM KERNEL RISK-SENSITIVE MEAN P-POWER LOSS ALGORITHM BASED SEAMLESS CONTROL OF GRID-TIED PV-BATTERY SYSTEM | 935 |
| <i>Mukul Chankaya, Aijaz Ahmad, Ikhtlaq Hussain, Bhim Singh</i> | |
| HIGHER ORDER OPTIMIZATION BASED CONTROL OF GRID-TIED DFIG WIND ENERGY CONVERSION SYSTEM | 941 |
| <i>Bisma Hamid, Ikhtlaq Hussain, Sheikh Javed Iqbal, Bhim Singh</i> | |

| | |
|--|------|
| MCS-ANN BASED HYBRID APPROACH FOR RELIABILITY ASSESSMENT OF COMPOSITE POWER SYSTEM..... | 947 |
| <i>Tanmay Jain, Kusum Verma</i> | |
| IMPROVED DESIGN FOR HIGH EFFICIENCY OF SINGLE-PHASE INDUCTION MOTOR FOR INDUSTRIAL EXHAUST FAN..... | 953 |
| <i>Utkarsh Sharma, Bhim Singh</i> | |
| REAL-TIME AMERICAN SIGN LANGUAGE REALIZATION USING TRANSFER LEARNING WITH VGG ARCHITECTURE | 958 |
| <i>Mohammad Daim Khan, B Shivalal Patro, Rajiv Ranjan, Manas Chandan Behera, Raushan Kumar, Utsav Raj</i> | |
| SOLAR PV CHARGE CONTROLLER WITH BATTERY MANAGEMENT SYSTEM USING VOLTAGE REFERENCE CONTROL..... | 963 |
| <i>Deep Prakash, Gautam A. Raiker, Shubham Agrawal, Subba Reddy B</i> | |
| ISLANDING DETECTION FOR UTILITY-GRID INTERFACED PV INVERTER USING WAVELET PACKET TRANSFORM..... | 969 |
| <i>Omkar Koduri, Bommaraju Sai Pranathi, Sagiraju Dileep Kumar Varma, Ssr Sarathbabu Duvvuri</i> | |
| PROPORTIONATE-TYPE ALGORITHM FOR MIMO-OFDM CHANNEL ESTIMATION AND ITS FPGA IMPLEMENTATION | 975 |
| <i>Manidipa Sarkar, Swetaleena Sahoo, Yash Keju Barapatre, Sarita Nanda</i> | |
| NAVIGATION USING OBJECT DETECTION AND DEPTH SENSING FOR BLIND PEOPLE | 980 |
| <i>Smit Malkan, Sampras Dsouza, Soumyaprakash Dasmohapatra, Manav Jain, Abhijit Joshi</i> | |
| LOW VOLTAGE RIDE THROUGH CAPABILITY AND POWER QUALITY IMPROVEMENT IN GRID CONNECTED PV SYSTEM USING ANN TUNED UPQC | 987 |
| <i>Ashwani Kumar, V. M. Mishra, Rakesh Ranjan</i> | |
| PARAMETER ESTIMATION FOR FRACTIONAL-ORDER WITH DELAY MODEL OF TWIN ROTOR MIMO SYSTEM | 993 |
| <i>Ankur Hore, Mano Ranjan Kumar, Sunil Kumar Mishra</i> | |
| MACROMODEL DEVELOPMENT FOR WIND SPEED ESTIMATION USING RBF-SVM | 998 |
| <i>B Shivalal Patro, Pruthiraj Swain, B Vandana</i> | |
| CARRIER AGGREGATION IN 5G USING MILLIMETER RANGE COMMUNICATION..... | 1002 |
| <i>Devidas Chikhale, Shankar Deosarkar, Mahesh Munde</i> | |
| PERFORMANCE ANALYSIS OF A BLOCKCHAIN BASED PEER-TO-PEER ENERGY TRADING FRAMEWORK | 1008 |
| <i>Nihar Ranjan Pradhan, Akhilendra Pratap Singh</i> | |
| MODERN CONTROL METHODE OF DUAL PMS IN-WHEEL ELECTRIC ENGINES FOR VEHICULAR DRIVE USING FIVE-LEG INVERTER | 1015 |
| <i>Abdelkader Karim Belhia, K. Hartani, N. Aouadj, T. Mohammed Chikouche</i> | |
| COMPARATIVE EVALUATION OF PSO, TLBO, AND JAYA BASED ADAPTIVE PI AND FOPI CONTROLLERS FOR VECTOR CONTROLLED INDUCTION MOTOR DRIVE | 1021 |
| <i>Abhishek Raj, Yawer Abbas Khan, Vimlesh Verma</i> | |

| | |
|---|------|
| A COMPREHENSIVE COMPARISON OF A LEAD-ACID BATTERY ELECTRO-THERMAL PERFORMANCE CONSIDERING DIFFERENT CHARGING PROFILES | 1027 |
| <i>Hamed Bizhani, Seyed Kamal Hosseini Sani, Hamed Rezaadeh, Sm Muyeen</i> | |
| SIMPLIFIED THREE-PHASE CURRENT RECONSTRUCTION USING SINGLE SENSOR APPLYING ACTIVE ZERO STATE SVPWM FOR COST EFFECTIVE PMSM DRIVE SYSTEM | 1033 |
| <i>Ahmed M. Omara, Ahmed Khudair, Mohamed G. Hussien, Md. Rabiul Islam</i> | |
| REDUCTION IN GAS COST FOR BLOCKCHAIN ENABLED SMART CONTRACT | 1039 |
| <i>Nitima Masla, Vaibhav Vyas, Jyoti Gautam, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| SERIES SWITCHED QUASI IMPEDANCE-SOURCE INVERTERS WITH IMPROVED BOOSTING ABILITY | 1045 |
| <i>Ajaykumar T, Nita R. Patne, Rajshri Satputaley, Ashwini D. Manchalwar, P. Sumanth</i> | |
| AN INTELLIGENT INTERCONNECTION MODULE FOR MULTIPLE SELF-HEALED INTERCONNECTED MICROGRIDS | 1051 |
| <i>Shameem Ahmad, Saad Mekhilef, Hazlie Mokhlis</i> | |
| DEVELOPMENT OF HYBRID STATION FOR G2V, V2G USING SPWM AND ABC-DQ TECHNIQUE | 1057 |
| <i>Smith Mathew Parackamannil, Polly Thomas, Arun Sebastian</i> | |
| POWER MANAGEMENT AND CONTROL FOR PV-BATTERY-UC STANDALONE SYSTEM | 1063 |
| <i>Sonali Badpanda, Jayati Dey, Tapas Kumar Saha</i> | |
| EXPERIMENTAL VALIDATION OF A QUADRUPLE BOOST MULTILEVEL INVERTER FOR MEDIUM VOLTAGE HIGH POWER RENEWABLE ENERGY INTEGRATION..... | 1070 |
| <i>Vishal Anand, Varsha Singh</i> | |
| COORDINATED CONTROL OF ADAPTIVE DAMPING AND ADDITIONAL TORQUE FOR TRANSIENT STABILITY IMPROVEMENT OF VIRTUAL SYNCHRONOUS GENERATOR..... | 1076 |
| <i>Jingguang Tang, Lei Chen, Xuefeng Qiao</i> | |
| PERFORMANCE CHARACTERIZATION OF T-TYPE MULTILEVEL DUAL ACTIVE BRIDGE DC-DC CONVERTER..... | 1081 |
| <i>Dharmendra Yadeo, Pradyumn Chaturvedi</i> | |
| FACIAL EXPRESSION RECOGNITION FOR THE BLIND USING DEEP LEARNING..... | 1087 |
| <i>Jinu Lilly Joseph, Santhosh P. Mathew</i> | |
| UNDERWATER TARGET MOTION ANALYSIS USING PRODUCT BEAMFORMER AND BEARING MATCH IN SIMULATED SPACE | 1092 |
| <i>S. Vijayan Pillai, Sreekanth Raja, R. Rajesh, T. Santhanakrishnan</i> | |
| FOURIER TRANSFORM-BASED WAVELET APPROACH FOR D-STATCOM COMPENSATED DISTRIBUTION NETWORKS FAULT DETECTION AND FAULT TIME COMPUTATION | 1097 |
| <i>Saurabh Bansal, Shoyab Ali, Gaurav Kapoor, Rabindra Nath Shaw</i> | |
| ALTERNATIVE APPROACHES FOR REVERSIBILITY, PERSISTENCY, AND FAIL-SAFE..... | 1103 |
| <i>Supriya Chakraborty, Yash Rai Dua</i> | |
| SEAMLESS INTEGRATION OF AN ONBOARD CHARGER IN A SMART HOME | 1110 |
| <i>Utsav Sharma, Bhim Singh</i> | |

| | |
|---|------|
| DESIGN AND SIMULATION OF TRIPLE MATERIAL GATE INAS/SI HETEROJUNCTION TFET ON SEL-BOX SUBSTRATES: TEMPERATURE IMPACT ANALYSIS | 1116 |
| <i>Ashish Kumar Singh, Manas Ranjan Tripathy, Rishibrind Kumar Upadhyay, Satyabrata Jit</i> | |
| STUDY ON AN ADVANCED LOW VOLTAGE RIDE-THROUGH CONTROL STRATEGY OF ENERGY ROUTER..... | 1122 |
| <i>Xuefeng Qiao, Lei Chen, Jinguang Tang, Meng Ding, Zekai Zhao</i> | |
| A SINGLE NODE UPSET HARDENED LATCH DESIGN IN NTV REGIME..... | 1128 |
| <i>Chaudhry Indra Kumar</i> | |
| THE IMPACT OF SYNCHRONOUS GENERATOR ON VOLTAGE SAG MITIGATION IN POWER SYSTEM NETWORK | 1132 |
| <i>Umme Kulsum Jhuma, Saad Mekhilef, Shameem Ahmad, Jahurul Islam, Jahidur Rahman Jesan, Md. Motasim Billah</i> | |
| A DATA MINING SOLUTION TO PREDICT CAMPUS PLACEMENT | 1137 |
| <i>Prayush Jain, Sandali Khare, Mahendra Kumar Gourisaria</i> | |
| SURFACE CRACK DETECTION USING DATA MINING AND FEATURE ENGINEERING TECHNIQUES..... | 1144 |
| <i>Anvesh Chordia, Sfurti Sarah, Mahendra Kumar Gourisaria, Rakshit Agrawal, Priyabrata Adhikary</i> | |
| A HIGH-POWER DENSITY PORTABLE CHARGER FOR E-MOPEDS AND E-RICKSHAW | 1151 |
| <i>Saran Chaurasiya, Bhim Singh</i> | |
| INTEGRATION OF SECTIONALIZING SWITCHES IN RECONFIGURED DISTRIBUTION SYSTEM..... | 1158 |
| <i>Surajit Sannigrahi, Sriparna Roy Ghatak, Parimal Acharjee</i> | |
| MOGOA BASED RLNN CONTROLLER FOR LFC OF THREE AREA DEREGULATED HDG POWER SYSTEM | 1164 |
| <i>Milton Kumar Das, Parthasarathi Bera, Partha Pratim Sarkar, Krishnendu Chakrabarty</i> | |
| A STUDY ON VARIETIES OF COMPUTER INTELLIGENT MODELS FOR EARLY DETECTION OF PROSTATE CANCER | 1170 |
| <i>Manmath Nath Das, Niranjan Panda, Rasmita Routray</i> | |
| A MACHINE LEARNING APPROACH FOR ITEM RECOMMENDATION USING SVD TECHNIQUE..... | 1174 |
| <i>Vishal Paranjape, Neelu Nihalani, Nishchol Mishra</i> | |
| DEVELOPMENT OF RE-COMMERCE ONLINE WEB-BASED PLATFORM | 1181 |
| <i>Md. Mahfuzur Rahman Abir, Md. Bahadur Alam, Anika Tabassum, Md. Talat Mahmud, Mohammad Monirujjaman Khan</i> | |
| COST OF ENERGY SENSITIVITY ANALYSIS OF PV/DIESEL WITH HYDRO PUMPED STORAGE FOR MENTAWAI MICROGRID SYSTEM | 1187 |
| <i>Syafii, Amirul Luthfi, Novizon, Rahmad Fahreza</i> | |
| VISION TRANSFORMER FOR MUSIC GENRE CLASSIFICATION USING MEL- FREQUENCY CEPSTRUM COEFFICIENT..... | 1192 |
| <i>Yash Khasgiwala, Jash Tailor</i> | |
| ADAPTIVE TRAFFIC SIGNAL CONTROLLING WITH TRANSFER LEARNING | 1197 |
| <i>Rupali Pawar, Kirti Tambare, Shweta Shahane, Shravani Pachkor</i> | |

| | |
|---|------|
| THE PSYCHOLOGY OF THINKING IN CREATING AI..... | 1203 |
| <i>Pertti Saariluoma, Antero Karvonen</i> | |
| E-NOSE FOR SHELF-LIFE PREDICTION OF CLIMACTERIC FRUITS | 1209 |
| <i>Sunil Karamchandani, Bhavya Sekhani, Kartik Nair, Krina Shah</i> | |
| A SIMPLE 24-PULSE RECTIFIER COMBINING POWER ELECTRONIC PHASE-SHIFTING TRANSFORMER AND PULSE DOUBLING INTER-PHASE REACTOR | 1213 |
| <i>Jingfang Wang, Anchen Chen, Xuliang Yao</i> | |
| COMPARATIVE ANALYSIS OF TRADITIONAL AND SOFT COMPUTING TECHNIQUES OF MPPT IN PV APPLICATIONS | 1219 |
| <i>Nirupama Srinivas, Shivam Singh, Manish Gowda, Chinmay Prasanna, Sangeeta Modi</i> | |
| A SURVEY ON ROLE OF MACHINE LEARNING AND NLP IN FAKE NEWS DETECTION ON SOCIAL MEDIA..... | 1225 |
| <i>Chetan Agrawal, Anjana Pandey, Sachin Goyal</i> | |
| CELL MODELLING AND ANALYSIS OF FIVE-PARAMETER THREE DIODE MODEL OF PHOTOVOLTAIC MODULE | 1232 |
| <i>Bhanu Prakash Saripalli, Gagan Singh, Sonika Singh</i> | |
| MODELLING AND SIMULATING PERFORMANCE OF HYBRID ELECTRIC VEHICLE USING ADVISOR 2.0 | 1239 |
| <i>Priyank Kumar Gautam, Anoop Arya, Surendra Kumar, Uliya Mitra, Shweta Mehroliya, Sushma Gupta</i> | |
| APSA BASED SELF SYNCHRONIZING CONTROL OF A RECONFIGURABLE HYBRID AC/DC MICROGRID | 1245 |
| <i>Souvik Das, Bhim Singh</i> | |
| COMPLEXITY AND PERFORMANCE EVALUATION OF SEGMENTED AND RECURSIVE REINFORCEMENT LEARNING | 1251 |
| <i>Modalavalasa Hari Krishna, Makkena Madhavi Latha</i> | |
| SEA DEBRIS DETECTION USING DEEP LEARNING: DIVING DEEP INTO THE SEA..... | 1258 |
| <i>Rahul Bajaj, Suyash Garg, Nilima Kulkarni, Rachana Raut</i> | |
| COAP CONGESTION CONTROL: A DYNAMIC SEND RATE BASED APPROACH | 1264 |
| <i>Vinesh Kumar Jain, Arka Prokash Mazumdar, Mahesh Chandra Govil</i> | |
| IMPLEMENTATION AND ANALYSIS OF IOT BASED AUTOMATION USING MQTT | 1270 |
| <i>Monika Kashyap, Vidushi Sharma, Gourav Verma</i> | |
| SOLAR PHOTOVOLTAIC SUPPLY SYSTEM INTEGRATED WITH SOLID STATE TRANSFORMER | 1275 |
| <i>Ratndeeep Sharma, Shailendra Kumar Sharma</i> | |
| DESIGN AND PERFORMANCE ANALYSIS OF A SINGLE PHASE ASYMMETRICAL MULTILEVEL INVERTER USING NEAREST LEVEL CONTROL STRATEGY | 1281 |
| <i>Mohammad Fahad, Ankush Kumar Sharma, Zeeshan Sarwer, Mohammad Zaid, Adil Sarwar</i> | |
| SHORT-TERM HYDROTHERMAL SCHEDULING USING IMPROVED SOCIAL GROUP OPTIMIZATION ALGORITHM..... | 1287 |
| <i>Akash Gautam, Ram Naresh Sharma, Vineet Kumar</i> | |

| | |
|---|------|
| FUZZY-BASED SMART PATH GUIDANCE SYSTEM FOR VISUALLY IMPAIRED AND DEAF PERSON | 1292 |
| <i>Md. Humayun Kabir, Md Saiful Islam, Mohammad Mohiuddin, Mohammad Golam Mortuza</i> | |
| PERFORMANCE OF MPPT AND EFFECT OF PARTIAL SHADING ON PV ARRAY FED LEV WITH SENSORLESS CONTROL..... | 1297 |
| <i>Sumit Kumar, Bhim Singh</i> | |
| AN AUGMENTED REALITY APPLICATION TO ENHANCE THE SHOPPING EXPERIENCE OF ELECTRONIC APPLIANCES | 1304 |
| <i>Vasundhara Chavan, Shivani Kamtankar, Aishwarya Jagtap, Bhumi Patil, Suchitra Pakale</i> | |
| ENHANCED QPLL BASED POSITION ESTIMATION OF RELSYNC MOTOR DRIVE FOR ELECTRIC VEHICLE WITH INTEGRATED SOURCES..... | 1308 |
| <i>Saurabh Mishra, Anshul Varshney, Bhim Singh</i> | |
| POWER FLOW MANAGEMENT OF A SOLAR PV AND BATTERY POWERED TELECOM LOAD WITH BIDIRECTIONAL GRID POWER EXCHANGE | 1314 |
| <i>Sheeja V, R Kalpana</i> | |
| AN EXTREME LEARNING MACHINE BASED APPROACH TO DETECT THE ALZHEIMER'S DISEASE..... | 1320 |
| <i>Amrutha Hari, H R Vanamala, Sanjana N, Vijaya Krishna A, Rohan Jain</i> | |
| WIND-SOLAR PV-BES BASED MULTIFUNCTIONAL MICROGRID WITH SEAMLESS MODE OF SWITCHING..... | 1326 |
| <i>Varsha Yadav, Seema, Bhim Singh, Arunima Verma</i> | |
| THREE-PHASE IMBALANCE GOVERNANCE METHOD FOR DISTRIBUTION NETWORK BASED ON BIG DATA ANALYSIS..... | 1331 |
| <i>Di Fan, Hong Wang, Feng Wang, Fucheng Huang, Jing Wang, Kaipei Liu, Liang Qin</i> | |
| FRACTIONAL-ORDER SLIDING MODE CONTROLLER APPLIED FOR LOAD FREQUENCY CONTROL OF POWER SYSTEM..... | 1337 |
| <i>Dipayan Guha, Provas Kumar Roy, Subrata Banerjee</i> | |
| COMPUTER VISION BASED LOCAL VEGETABLES RECOGNITION..... | 1344 |
| <i>Md. Robel Mia, Narayan Ranjan Chakraborty</i> | |
| BI-DIRECTIONAL POWER FLOW THROUGH AN INTERLINKING CONVERTER IN AN AUTONOMOUS HYBRID MICRO-GRID | 1350 |
| <i>Archna Aggarwal, A. S. Siddiqui, Sukumar Mishra</i> | |
| EFFECT OF CONDUCTOR CURRENT ON SPACE CHARGE ACCUMULATION IN HVDC CABLE INSULATION..... | 1356 |
| <i>Darshan Prakash Borthakur, Alok Ranjan Verma</i> | |
| ANALYSIS OF THERMAL PERFORMANCE OF AN AIR CIRCUIT BREAKER..... | 1360 |
| <i>Pranay M. Sen, S. S. Kanojia</i> | |
| ELECTRIC VEHICLE CHARGING STATION USING ANPC CONVERTER WITH BIPOLAR DC BUS..... | 1366 |
| <i>Akhilesh Kumar Tiwari, Lalit Kumar Sahu, Yugal Kishor, C. H. Kamesh Rao, Swagatika Mishra, Allamsetty Hema Chander</i> | |

| | |
|--|------|
| COMPARATIVE STUDY OF UPFC CONTROLLERS TO IMPROVE TRANSIENT AND DYNAMIC STABILITY OF POWER SYSTEM | 1372 |
| <i>Prashant Jagtap, Vinod Chandrakar</i> | |
| DESIGN AND PERFORMANCE OF SWITCHED RELUCTANCE MOTOR MODEL IN SINGLE PULSE CONDUCTION MODE FOR ELECTRIC VEHICLE APPLICATION | 1379 |
| <i>Farha Siddique, Sharankumar Shastri, Bhim Singh</i> | |
| PERFORMANCE ASSESSMENT OF PV-SH-BES SYSTEM WITH MODE TRANSFER CAPABILITIES | 1386 |
| <i>Shalvi Tyagi, Bhim Singh</i> | |
| PROPULSIVE PERFORMANCE OF TANDEM FLAPPING WINGS FOR AUTONOMOUS UNDERWATER VEHICLES (AUVS) AND SURFACE SHIPS | 1392 |
| <i>Naga Praveen Babu Mannam, Venkata Ramana Avula</i> | |
| THREE PHASE SINGLE STAGE FOUR QUADRANT EV CHARGER USING MODEL PREDICTIVE CONTROL..... | 1399 |
| <i>Rahul Kumar, Bhim Singh</i> | |
| A NEW THREE-PHASE HIGH PERFORMANCE H8 FILTER CLAMPED TRANSFORMER-LESS INVERTER FOR GRID-TIED PHOTOVOLTAIC SYSTEMS..... | 1405 |
| <i>Mohua Biswas, Shuvra Prokash Biswas, Md. Rabiul Islam</i> | |
| DYNAMIC NETWORK TARIFF IN PRACTICES: KEY ISSUES AND CHALLENGES..... | 1412 |
| <i>Praveen Prakash Singh, Fushuan Wen, Ivo Palu</i> | |
| TEMPORAL AND SPATIAL DISTRIBUTION OF CHARGING LOADS OF ELECTRIC VEHICLES WITH ROAD INFORMATION EMPLOYED..... | 1418 |
| <i>Qiang Li, Zhan Liu, Fushuan Wen, Hongtao Ren, Chongyu Wang</i> | |
| CALCULATION MODEL OF OPERATION AND MAINTENANCE COSTS OF A SUBSTATION PROJECT IN ELECTRICITY MARKET ENVIRONMENT..... | 1423 |
| <i>Zhiqiang Zhang, Shuyan Zhang, Jinlan Hu</i> | |
| ROBUSTFACE RECOGNITION BY FUSING FUZZY TYPE 2 INDUCED MULTIPLE FACIAL FUSED IMAGE | 1428 |
| <i>Manas Ghosh, Aniruddha Dey, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| CYBER WARFARE THREAT CATEGORIZATION ON CPS BY DARK WEB TERRORIST..... | 1434 |
| <i>Vinod Mahor, Romil Rawat, Anil Kumar, Mukesh Chouhan, Rabindra Nath Shaw, Ankush Ghosh</i> | |
| APPLYING DEEP LEARNING KERNEL FUNCTION FOR SPECIES IDENTIFICATION SYSTEM | 1440 |
| <i>Sofia K. Pillai, M. M. Raghuwanshi, Snehalata Dongre</i> | |
| DATA SENSITIVE ALGORITHM INTEGRATED WITH COMPRESSION TECHNIQUE FOR SECURED AND EFFICIENT UTILIZATION OF CLOUD STORAGE | 1444 |
| <i>Mohd Tajammul, Rafat Parveen, Nitin K Gaur, Saravanan D</i> | |
| FACIAL EMOTION RECOGNITION BASED ON TEXTURAL PATTERN AND CONVOLUTIONAL NEURAL NETWORK..... | 1453 |
| <i>Moutan Mukhopadhyay, Aniruddha Dey, Rabindra Nath Shaw, Ankush Ghosh</i> | |

| | |
|--|------|
| DESIGN AND IMPLEMENTATION OF HYSTERESIS MOTOR WITH SCRAP MATERIAL ROTOR RING..... | 1459 |
| <i>Gauri Deepak Karanjaokar, M. S. Bhaskar, S. Sivakumar, P. Sanjeevikumar, S. Umashankar, D. J. Almakhles</i> | |

| | |
|---|------|
| A NEW CONFIGURATION OF SWITCH AND SOURCE FAULT-TOLERANT DUAL-INPUT SINGLE-OUTPUT DC-DC CONVERTER..... | 1465 |
| <i>Mudadla Dhananjaya, Jagabar Sathik M, Sanjeevikumar Padmanaban, Dhafer Almakhles, Devendra Potnuru</i> | |

Author Index