

2019 IEEE Region 10 Symposium (TENSymp 2019)

**Kolkata, India
7 – 9 June 2019**



**IEEE Catalog Number: CFP19TEO-POD
ISBN: 978-1-7281-0298-6**

**Copyright © 2019 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:	CFP19TEO-POD
ISBN (Print-On-Demand):	978-1-7281-0298-6
ISBN (Online):	978-1-7281-0297-9
ISSN:	2640-821X

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

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
1	2	Tao Wuand Ruomei Wang	Decoding Erasures for Nonsystematic RS Codes	1
2	4	Sourav Bhowmick and Surajit Panja	Lag-Bipartite Consensus of Linear Multi-agent System over Signed Directed Graph	6
3	7	Saroj Kumar Chandra and Manish Kumar Bajpai	Two Sided Impliciteuler Based Super-Diffusive Model For Benign Tumor Segmentation	12
4	13	Shraddha Maslekar, Rohit Venkatesh, Dhananjay Kumar, H. D. Mathur and Houria Siguerdidjane	Electric Vehicle impact Analysis in a Microgrid using Optimized Bio-Inspired Non-Integer Controller	18
5	15	Mohammad Shakirul Islam, Md. Ferdouse Ahmed Foysal and Sheak Rashed Haider Noori	Bayanno-Net: Bangla Handwritten Digit Recognition using Convolutional Neural Networks	23
6	18	Soumyadeep Bose, Yogesh V. Hote and Sandeep Hanwate	Analysis of Initial Undershoot in Step Response of Type-1 Nonminimum Phase Systems	28
7	19	Subir Majumder, S.A. Khaparde, Ashish P. Agalgaonkar, Sarath Perera, S.V. Kulkarni and Phil Ciufo	Hybrid storage system sizing for minimum daily variability injection	33
8	24	Mohshi Masnad, G.M. Mukit Hasan, Kazi Md. Iftekhar and Md. Sadekur Rahman	Human Activity Recognition using DTW Algorithm	39
9	25	Jeevan Surya Maddu, Somanath Tripathy and Sanjeet Kumar Nayak	SDN Guard: An Extension in Software Defined Network to Defend DoS Attack	44
10	29	Amit Kumar Chowdhury, D.K. Jain, S.P. Barnwal, M. Viswanadh, Biswajit Mondal and Bibek Agarwal	Advancement of Situational Awareness in Eastern Regional Control Center	50
11	30	Poulami Raha and Bhabatosh Chanda	Restoration of Historical Document Images Using Convolutional Neural Networks	56
12	33	Shangmin Dou, Xiaoyu Ji, Yunbo Yang and Yifan Yuan	The preliminary exploration on application of Machine Learning in the Middle-Infrared Spectrum analysis	62
13	37	Utsava Kumar Singh and Abhinandan Basak	Performance Study of Different PLL Schemes Under Unbalanced Grid Voltage	66
14	42	Parthana Sarma and Shovan Barma	Emotion Analysis Based on LASSO	72
15	44	Aditi Chatterjee and Kiranmoy Das	A Statistical model for automated patient monitoring using wireless body-area networks	78
16	45	Chandrima Thakur and Sudipta Chattopadhyay	A novel Interference-aided Energy Harvesting Scheme for Cooperative Network	84
17	47	Saurabh Tewari and U.D. Dwivedi	A Real-World Investigation of Twin SVM for the Classification of Petroleum Drilling Data	90
18	49	Sriparna Banerjee and Sheli Sinha Chaudhuri	S-HAZE: dataset consisting of real world ground truth and hazy images of varying haze density with no-sky, little sky and large sky regions	96
19	51	Aneek Roy, Nimagna Biswas, Sanjoy Kumar Saha and Bhabatosh Chanda	Classification of Moving Crowd Based on Motion Pattern	102
20	53	Amit Kumar Das and Dilip Kumar Pratihari	A New Bonobo Optimizer (BO) for Real-Parameter Optimization	108

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
21	56	Pratyush Pratiim Devnath, Ananda Sankar Kundu, Oishee Mazumder and Subhasis Bhaumik	Human-Hand Posture Classification For Robotic Teleoperation Using Wearable Sensor	114
22	57	Aditya Ranjan Brahma, Vinu Thomas, Kumaravel S. and Ashok S.	Impact of System Parameters on the Performance of Synchronverter	120
23	62	Soumya Sundar Pattanayak, S.H. Lakar. and Swagatadeb Sahoo	Modelling Agricultural Residue based Microwave Absorber under X-band Frequency	126
24	63	Pradnya Gaonkar, Jyotsna Bapat, Debabrata Das and Subrahmanya V.R.K. Rao	Occupancy Estimation in Semi-Public Spaces using Sensor Fusion and Context Awareness	131
25	64	Md. Tanziar Rahman and Md. Motaharul Islam	A Comparison of Machine Learning Algorithms to Estimate Effort in Varying Sized Software	137
26	70	Tilendra Choudhary, M.K. Bhuyan, and L.N. Sharma	Effect of Respiratory Effort Levels on SCG Signals	143
27	71	Paramita Das, Agniv Adhikari and Abhik Mukherjee	Accessibility metric for characterizing the relevance of conference papers	147
28	75	Venkatesha M., Prasanth G. Rao, Anita Kanavalli, P. Deepa Shenoy and Venugopal K.R.	Detecting Extended Contexts in Tweets using DBpedia	151
29	77	Samya Muhuri Member, Ananya Sarkar, Sambhabi Chakraborty and Susanta Chakraborty	A Statistical Method for Prediction of Liver Disease based on the Brownian Motion Model	157
30	80	Nabanita Banerjee and S. Mukhopadhyay	HC-PSOGWO: Hybrid Crossover Oriented PSO and GWO based Co-Evolution for Global Optimization	162
31	81	Santanu Mallick and Ujjwal Mondal	Performance Analysis of a Conical Tank System using Lyapunov based MRAC Technique	168
32	83	Soma Biswas, Swapan Kumar Goswami and Debjani Bhattacharya	Optimal Placement of Distributed Generation in an Unbalanced Radial Distribution System Considering Load Variation	173
33	85	Saheli Sengupta, Suman Maiti, Subhashis Ghosh, Arnab Das, Samarjit Sengupta and Hiranmay Saha	A Long Term PV Power Degradation Prediction due to Dust Fouling and Environmental Stresses	179
34	88	Biswajit Halder	Semi-isotropically Optimized Parallel Manipulator Design Issues: A Performance Comparison in view of Vibration Isolator Application	184
35	100	Lalit Kumar and Nand Kishor	PSS Design and its Performance Investigation on the Subsystem where the Inter-Area Mode is Most Dominant	190
36	101	Shamik Sen, Dr. S.P. Singh and Dr. S.G. Choudhuri	A Communicationless Control Of Single Phase Two Winding SEIG By VSI Battery Based System	196
37	104	Deblina Roy, Ujjal Sur and Gautam Sarkar	Hybrid AC-DC Microgrid Load Flow Based on Modified Backward Forward Sweep Method	202
38	106	Jagannath Samantaray and Sohom Chakrabarty	Relative Degree Two Discrete Time Sliding Mode Speed Tracking Control of a DC Motor	208

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
39	113	Monalisa Singha Roy, Pinaki Bag and Rajarshi Gupta	Reconstruction of Corrupted and Lost Segments from Photoplethysmographic Data Using Recurrent Neural Network	214
40	114	Roshan Nair and Chaithanya Pramodh Kasula	Correlation Tool for Nextgen SoN Networks	220
41	115	Arthi Sahaya Rones V., Abishek R.S., T. Muthu Kumar, Jane Jose and Abhimanyu Gartia	Ferroresonance in Southern Regional Grid of India- Grid Operator's Perspective	226
42	116	Kumar Sai Charan Karnati, Seshadri Reddy Nagireddy, Rishabh Bhooshan Mishra, Aftab M. Hussain	Design of Micro-heaters Inspired by Space Filling Fractal Curves	231
43	118	Soumen Biswas and Ranjay Hazra	A novel level set method for medical image segmentation	237
44	121	Rahul Gavas, Debatri Chatterjee, Aniruddha Sinha and Sanjoy Kumar Saha	Effect of Cognitive Load on a Random Sequence Generation Task	243
45	123	Dibya Bharti, Meera Sinha, Sukanya and Mala De	Multi-Objective Optimization Based Resource Utilization with Loss Minimization in Microgrid	249
46	126	Rochan AvlurVenkat and Dr. ChandrasekarVaidyanathan	Lossless Video Compression Using Bayesian Networks and Entropy Coding	254
47	131	Smitha Joyce Pinto, Narendra Babu P., Ranga Babu Peesapati and Gayadhar Panda	Monitoring and Control of Multi Bus Microgrid System Using FPGA Platform	260
48	132	Sandeep Kumar Das and Supriya Sarkar	Short-Circuit based Optimal Location, Sizing and Power Factor Determination of Multi Distributed Generations in Radial Distribution Networks	266
49	136	Gautam M., SiramRaviteja, Sivanesh S. and R. Mahalakshmi	Data Acquisition For Residential Energy Management Employing IoT Using Thing Speak	272
50	137	Amit Kumar Das and Dilip Kumar Pratihari	A fission-fusion (FF) selection scheme for genetic algorithms	277
51	141	Subham Khatua and Preetha P.	Effect of Surface Charge Accumulation on Electric Field Computation in CO2 filled GIS	282
52	143	Rajib Malik, Kalyan Kumar Ray and Saswati Mazumdar	A Maximum Power Point Tracking VRLA Battery Charger Based on Modified Perturb and Observe Technique	287
53	144	Biplab Roy, Rajarshi Gupta and Jayanta K. Chandra	Estimation of Respiration Rate from Motion Corrupted Photoplethysmogram: A Combined Time and Frequency Domain Approach	292
54	145	Mausumi Dhar, Shilpa Samaddar and Paritosh Bhattacharya	Global behavior of a within-host viral dynamic model with non-cytolytic cure effect	298
55	146	Dibyanshu Jaiswal, Arijit Chowdhury, Debatri Chatterjee and Rahul Gavas	Unobtrusive Smart-Watch Based Approach for Assessing Mental Workload	304
56	148	Arya Sikder, Pranabesh Bhattacharjee, Suman Chowdhury, Supriya Dhabal and Palaniandavar Venkateswaran	Design of Band-pass FIR Filter using Improved Sine Cosine Algorithm and its Implementation on FPGA	310

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
57	152	Joyce Jacob, Dhanya S., Lakshmi Tharamal, Avinash Nelson A. and Preetha P	Partial Discharge Characteristics of Nanofilled Mineral Oil	316
58	154	Manoj Surya Kashi, Tarun Bhargav Sriram and Rajasekar Mohan	An Approach to Labelled Indoor Mapping using SLAM and Object Detection	321
59	155	Avinash Nelson A., Jacob P. Varghese, Joyce Jacob, Preetha P. and Sunitha Karakkad	Dielectric Characterisation of Epoxy-Alumina Nanocomposite with Cole-cole Plot	326
60	156	Alvee Rahman, Fahim Md Rafiq, Ramkrishna Saha, Ruhit Rafian and Hossain Arif	Bengali Text Summarization using TextRank, Fuzzy C-Means and Aggregate Scoring methods	331
61	157	Amartya Dutta, Riya Majumdar, Debasis Dhal and Rajat Kumar Pal	Structural Modelling, Design Automation, and a Generalized Routing Technique for Digital Microfluidic Biochips with Hexagonal Electrodes	337
62	158	Swati Bhattacharya and Manish Okade	Distinguishing Photographic and Computer Generated Images using Local Rank Transform	343
63	159	Prithwish Jana, Swarnabja Bhaumik and Partha Pratim Mohanta	Key-Frame based Event Recognition in Unconstrained Videos using Temporal Features	349
64	160	D. Srujan, Ghanasyam P. and ArghyaMitra	An Improved Fault Ride-through of Grid Integrated Solar PV system	355
65	164	Debalina Nanda, Prasad Syam and Kaushik Mukherjee	Selection procedure of Z-network parameters for a SVPWM Voltage-fed ZSI under varying input voltage conditions with simulated performance	361
66	167	Afrin Sultana Meem, Henry Bukenya, Abrar Faisal, Pulok Tarafder and A.K.M. Abdul Malek Azad	A qualitative study of current trends in microwave wireless power transmission including current advancements and challenges	367
67	169	Lopamudra Dey and Anirban Mukhopadhyay	A Classification-based Approach to Prediction of Dengue Virus and Human Protein-Protein Interactions using Amino Acid Composition and Conjoint Triad Features	373
68	170	Nilabhra Paul, Deepshikha Sarma and Uttam Kumar Bera	A Neutrosophic Solid Transportation Model with Insufficient Supply	379
69	171	Ganesh Roy, Dristanta Nirola and Subhasis Bhaumik	An Approach towards Development of Brain Controlled Lower Limb Exoskeleton for Mobility Regeneration	385
70	172	Kondala Rao Jyothi and Manish Okade	Computational Color Naming for Human-Machine Interaction	391
71	176	Pranav Agarwal, Soumyajit Poddar, Anakhi Hazarika and Hafizur Rahaman	Learning to synthesize faces using voice clips for Cross-Modal biometric matching	397
72	178	Isha Ganguli, Rajat Subhra Bhowmick and Jaya Sil	Study of Recurrent Neural Network models used for evaluating Numerical Expressions	403
73	180	Kritika Bansal and Pankaj Mukhija	Hybrid Aperiodic Control of Distributed Networked Nonlinear Systems	409
74	181	Payal V. Dahiwale and Naran M. Pindoriya	Review on Fault Management in Hybrid Microgrid	415

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
75	182	Dola Gupta, Palaniandavar Venkateswaran and Aditi Chatterjee	An Energy Efficient Statistical Approach for Greenhouse Monitoring using Wireless Sensor Nodes	423
76	186	Debanjana Datta, Mousumi Bhanja, Amit Prasad, Baidyanath Ray and Ayan Banerjee	Design of Current-mode High Frequency linear Analog Circuit	429
77	189	Ata E. Rabbi, Shaila Arif and Tareq Aziz	Performance Comparison of STATCOM and BESS for Restoring Voltage Under Post Fault Scenario	435
78	190	Lalit Kumar, Rajendra Prasad, Akhilesh Kr. Gupta, Deepak Kumar, Manoj Kumar Panda and Bhola Jha	Modified Least-Square based Model Reduction using Time Moments and Markov Parameters	441
79	192	Anirban Manna, Govind Chandak, Rohit Mundada, Subash Chandra Manohari, Figlu Mohanty and Suvendu Rup	Block-level cross diagonal texture matrix-based feature extractor for digital mammogram classification	447
80	195	Somnath Rakshit, Namrata Pant, Sushmita Paul and Indrajit Saha	Identification of Four miRNAs by Analysing Multi-View miRNA-seq Data of Stomach Cancer	451
81	196	Nahid-Al-Masood , Md. Iqbal Asif, Ahmed Manavi Alam, Shohana Rahman Deebea and Tareq Aziz	Forecasting of Photovoltaic Power Generation: Techniques and Key Factors	457
82	197	Paulami Santra, Arani Mukhopadhyay, Bishan Debnath, Mervin A. Herbert and Subhasis Bhaumik	Active Upper Arm Exoskeleton – Design and Kinematic Analysis	462
83	198	Tareq Aziz, Nahid-Al-Masood, Shohana Rahman Deebea, Shaila Arif and Ata E. Rabbi	Risks of Cascading Contingencies in Islanded Operation of a Renewable Integrated Microgrid	468
84	199	Md. Ochiuddin Miah, Sakib Shahriar Khan, Swakkhar Shatabda, Khondaker Abdullah Al Mamunand Dewan Md. Farid	Real-Time EEG Classification of Voluntary Hand Movement Directions using Brain Machine Interface	473
85	204	Nahid Ibn Ashraf, Mustafa Mohammad Shaky, Rashid Ahmed Rifat and Mustafa Habib Chowdhury	Use of Plasmonic Metal Core-Dielectric Shell Composite Nanoparticles Embedded within the Absorbing Layer to Enhance the Efficiency of Thin Film Solar Cells	479
86	205	Kamakshi Prashadini Swain and Mala De	Congestion Management Using Demand Response in Smart Distribution System	485
87	206	Deepika Duppala, Srinivas Nagaballiand Vijay S. Kale	The Technical Impact of Increase in Penetration Level of DG Technologies on Power System	491
88	208	Asif Ahmed, Samiul Islam and Amitabha Chakrabarty	Identification and Comparative Analysis of Potholes using Image Processing Techniques	497
89	209	A.Q.M. Sazzad Sayyed , Md. Tasnimul Hasan, Shakib Mahmood, Abdul Rakib Hossain	Autonomous Fire Fighter Robot Based on Image Processing	503

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
90	211	Antony K. Peter and Jaison Mathew	Bus clamped Space Vector Pulse Width Modulated Direct Torque Control of Induction Motor	508
91	213	Tamojay Deb, Anjan K. Ghosh and Anjan Mukherjee	Image Approximation using Singular Value Decomposition vs the Spatial Information	514
92	214	Mohammad Muntasir Hassan, Hasin Us Sami and Fariba Islam	EEG Signal Based Cognitive System for Controlling Home Appliances and Generating Speech Command	519
93	226	Avijit Hazra and Mohammed Moshuiul Hoque	Braille Gloves: An Intelligent Hand-Glove to Generate Bengali Braille Characters for Visually Impaired People	523
94	229	Abhishek Kumar and Seemanti Saha	Discrete Wavelet Transform Based Hybrid Edge Detection Technique for Wideband Spectrum Sensing in CRNs	529
95	231	Ferdous Irtiaz Khan and Tareq Aziz	Transient Stability evaluation of a Solar PV Integrated Industrial Microgrid	535
96	235	Amit Ghosh, Md. Shahinuzzaman Sabuj, Hamudi Hasan Sonet, Swakkhar Shatabda, and Dewan Md. Farid	An Adaptive Video-based Vehicle Detection, Classification, Counting, and Speed-measurement System for Real-time Traffic Data Collection	541
97	237	Priyanka Bera and Rajarshi Gupta	Improved Arrhythmia Detection from Electrocardiogram	547
98	238	Diptarshi Bhowmick and Suparna Kar Chowdhury	Sensorless Prediction of Equivalent Circuit Parameters and Losses of a Squirrel Cage Induction Motor using PSO	553
99	239	Venkataramana Duppala, Iti Saha Misra and Salil.K. Sanyal	Eigenvalue Spread based Improved VSSALMS Algorithm for Antenna Beamforming using Digital Signal Processor	559
100	240	Soumyendu Banerjee	A First Derivative Based R-Peak Detection and DWT Based Beat Delineation Approach of Single Lead Electrocardiogram Signal	565
101	241	Srikantakumar Dash, Byamakesh Nayak and Pakedam Lare	Harmonics Assessment of a Cascaded Multilevel Inverter using Salp Swarm Algorithm	571
102	242	Shyleshchandra Gudihatti K. N., S. H. Manjula and Venugopal K. R.	EAARG(Energy Aware Allocation of Resources using Game Theory) Approach for Multi-hop Cognitive Radio Network	576
103	244	Smita Paira, Joy Halder and Uma Bhattacharya	MDC-RSA: A novel online survivable RSA technique in data center oriented EON	582
104	246	Annapurna Mondal, Sagnik Bhar, Supriyo Srimani, Indranil Hatai, Kasturi Ghosh and Hafizur Rahaman	Analytical Model of a Multi-Resolution Sample rate re-configurable Decimator for SDADC	588
105	248	Bed Prakash Das, Kaushik Das Sharma and Jitendranath Bera	Environment Dependent Neural Network Model For Occupancy Detection	593
106	250	Anirban Dey, Kaushik Das Sharma, Tamalika Sanyal, Pritha Bhattacharjee (Jr.) and Pritha Bhattacharjee	Population based study on arsenic induced blood samples employing hybrid metaheuristic optimization based ML approach	599
107	251	Md. Razaul Haque Subho, Md. Ridowan Chowdhury, Dipankar Chaki, Samiul Islam and Md. Maruf Rahman	A Univariate Feature Selection Approach for Finding Key Factors of Restaurant Business	605

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
108	254	Rakesh Das and Jitendra Nath Bera	Development of NAN for Energy Monitoring System using ZigBee	611
109	255	Abdul Latif and Dulal Chandra Das	Co-ordinated frequency support of Solar-field/Wind based Independent Hybrid Micro-grid System using WOA optimized single Contoller	617
110	257	Subhasish Banerjee, Pulak Mondal and Mourina Ghosh	Novel Realization of Second Order Inverse Band reject Filter and Inverse Allpass Filter Using Operational Transresistance Amplifier	623
111	258	Tannistha Mitra Das, Sk. Nurul Islam, Gobinda Sen and Santanu Das	A Novel AMC Backed Wide Band Wearable Antenna	628
112	259	Sarbamoy Mallick, Pritam Pathak and Abhik Mukherjee	Design of an adaptive estimator for tracking football in flight	631
113	260	Debasish Biswas, Kaushik Das Sharma and Gautam Sarkar	Output Feedback based Adaptive Control for Fractional Order Inverted Pendulum on Cart in NSOF Domain	637
114	261	Marzia Alam and Syed Taha Saleh	Design of an Off-Grid Solar Powered School for Village Community of India	643
115	264	Bhalaji Nagarajan and V Ramana Murthy Oruganti	Cross-Domain Transfer Learning for Complex Emotion Recognition	649
116	268	Himadri Lala, Subrata Karmakar and Anubhav Kumar Singh	MATLAB-Based GUI Development for the Detection and Localization of Faults in Transmission Line	654
117	270	Anushri Saha, Sachin Singh Rathore, Shivam Sharma, and Debasis Samanta	Analyzing the difference between deep learning and machine learning features of EEG signal using clustering techniques	660
118	272	Mohit Mishra and Rakhesh Singh Kshetrimayum	Compact Quad-band MIMO Antenna Array with Low Mutual Coupling for Mobile Terminal	665
119	273	Irtiza Hasan, Auditi Das and Mohammed Imamul Hassan Bhuiyan	Electrohysterography based Preterm Birth Classification in the CEEMDAN Domain	671
120	274	Subhra J. Sarkar, Palash K. Kundu and Gautam Sarkar	Comparison of Different Differential Coding based Algorithms Developed for Compressing Power System Operational Data	676
121	275	Palash Mondal, Arijit Nandi and Nanda Dulal Jana	An Improved Particle Swarm Optimization based Neural Network Training for Classification	681
122	276	Sudhanshu Ranjan, Dulal Chandra Das and Nidul Sinha	Dynamic Frequency Analysis of Hybrid Micro Grid through Electric Water Heater under Demand Response Scheme	687
123	279	Bitan Pratihar and Madhusree Kundu	Classification and Prediction of Cardiovascular Autonomic Neuropathy Severity Using Fuzzy Logic Based Expert System	692
124	280	Geeta C.M., Mithila Lakshmi G., Shreyas Raju R.G., Raghavendra S., RajkumarBuyya, Venugopal K. R., S. Slyengar, and L.M. Patnaik	STLDAS: Secure Two Level Deduplication and Auditing of Shared Data in Cloud	698
125	281	Debasis Gountia and Sudip Roy	Design-for-Trust Technique for Microfluidic Biochip Layout	704

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
126	282	Shefali Waldekar and Goutam Saha	Texture Features for High-level Classification of Acoustic Scenes	710
127	283	Md. Moshir Rahman, Farhana Akter Mou, Mohammed Imamul Hassan Bhuiyan, Mohammad Rakibul Islam	Extremely Low Effective Material Loss of Air Core Photonic Crystal Fiber for THz Guidance	716
128	284	Tatiana Chakravorti and Penke Satyanarayana	Classification of Power Quality Disturbances using Adaptive Variational Mode Decomposition based Random Vector Functional Link Network	721
129	285	Barnana Baruah and Subhasish Dhal	An Intelligent Privacy Preserving Vehicle Navigation System	727
130	287	Ujjal Sur, Amitava Biswas, Jitendranath Bera and Gautam Sarkar	A Modified Holomorphic Embedding Load Flow Method for Active Power Distribution Networks	733
131	289	Ginnes K. John, Sindhu M.R. and T.N.P. Nambiar	Hybrid VSI Compensator for AC/DC Microgrid	738
132	291	Roshni Maiti, Kaushik Das Sharma and Gautam Sarkar	Adaptive Fuzzy Low-pass Filter Based L1 Adaptive Controller Design for Twin Rotor MIMO System	744
133	292	Naman Tiwari and Koushik Mondal	NCS based ultra low power optimized machine learning techniques for image classification	750
134	297	Md. Arifur Rahman Barno, Md. Anwarul Azim, Abu Shufian, Ishtiaq Ahmad and Shanta Datta	An Android Subjugated Compact Self-driving Semi Autonomous Vehicle	754
135	298	Susmita Das, Dalia Nandi (Das) and Biswarup Neogi	Lower Limb Movement Analysis for Exoskeleton Design	759
136	300	Mausri Bhuyan, Dulal Chandra Das and Amar Kumar Barik	A Comparative analysis of DSM based autonomous hybrid microgrid using PSO and SCA	765
137	301	Dinesh Kumar Mahto, FazleKibriya, Anant Milan Khalkho, Dushmantha Kumar Mohanta	Data Driven Approach for Wide Area Generator Coherency Detection Using Synchrophasor Measurements	771
138	302	Sweta Bhattacharjee, Sushmita Saha, Arkya Santra, Jeet Banerjee, and Rowdra Ghatak	A UWB Antenna with Bandwidth Enhancement for 5G, IoT, USB-dongle and UWB wireless applications	775
139	303	Saptak Ghosal, Biswadeep Chakraborty, Mousumi Laha, and Amit Konar	Phase-Synchrony And Causality Analysis Of Brain Signals To Determine Signal Transduction Pathways In Color Perception	778
140	305	Farzana Shabnam	Analysis of Energy Harvesting Techniques for Mobile Networks	784
141	306	Ahnaf Atef Choudhury, Md. Rezwan Hassan Khan, Nabuat Zaman Nahim, Sadid Rafsun Tulon, Samiul Islam and Amitabha Chakrabarty	Predicting Depression in Bangladeshi Undergraduates using Machine Learning	789
142	308	Rubina Khan, Nilutpal Gogoi, Joydev Barman, Abdul Latif and Dulal Chandra Das	Virtual Power Plant enabled Co-ordinated Frequency Control of a grid connected Independent Hybrid Microgrid using Firefly algorithm	795

Table of Contents

Sl. No.	PaperID	Authors' Name	Paper Title	On Page
143	314	Abhay Garg, Rohit Kumar, Soumyabrata Das, Priti Das, Rachna Kumari Bohra, Rohit Prajapati and Tanmoy Malakar	Neural Network Algorithm for Solving Economic Load Dispatch	801
144	318	Ramya R.S., Darshan M., Naveen Raj, Sejal D, Venugopal K.R., S. S. Iyengar, and L.M. Patnaik	Efficient Batch Top k Spatial Term Search by Feature Redundancy	807
145	320	Tanmay Chakraborty, Sagnik Chakrabarti, and Bikramjit Hazra	Study of β , p and Q_0 parameters for Shortest Path Estimation using Ant Colony Optimization	813
146	324	Sushmita Roy Tithi, Afifa A ktar, Fahimul Aleem and Amitabha Chakrabarty	ECG data analysis and heart disease prediction using machine learning algorithms	819
147	325	Md. Mofijul Islam, Amar Debnath, Tahsin Al Sayeed, Md. Mahmudur Rahman, Md. Mosaddek Khan, Swakkhar Shatabda and Anik Islam	A Gray Box Interpretable Visual Debugging Approach for Deep Sequence Learning Model	825
148	327	A.K. Das, A.K. Pradhan, S. Dalai, B. Chatterjee and A. Mukherjee	Studies on the effects of temperature on XLPE cable insulation through Polarization and Depolarization Current (PDC)	831
149	329	Haris Ahmed and Avik Bhattacharya	Model Predictive Control of DMC based SST	836