2018 IEEE Applied Signal Processing Conference (ASPCON 2018)

Kolkata, India 7 – 9 December 2018



IEEE Catalog Number: ISBN:

CFP18P52-POD 978-1-5386-6687-6

Copyright © 2018 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:	CFP18P52-POD
ISBN (Print-On-Demand):	978-1-5386-6687-6
ISBN (Online):	978-1-5386-6686-9

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



SI. No.	Paper ID	Authors' Name	Paper Title	Pages
1	5	Shreeparna Chakraborty, Sushmita Roy and Ujjwal Mondal	Fractional-Order Controller for the Position Control of a DC Motor	1-3
2	10	Sushmita Roy, Shreeparna Chakraborty and Ujjwal Mondal	Fractional-Order Controller for Automatic Voltage Regulator	4-8
3	11	Indrayudh Bandyopadhyay, Prithwiraj Purkait and Chiranjib Koley	A SVM based Classifier for Identification of Spurious Resistance Fault involving IGBTs in VSI based Induction Motor Drive	9-13
1	12	Mayank Tiwari and Bhupendra Gupta	Efficient PRNU Extraction Using Joint Edge- Preserving Filtering for Source Camera Identification and Verification	14-18
5	17	Saikat Saha, Swagata Mondal, Anindya Saha and Prithwiraj Purkait	Design and Implementation of IoT Based Smart Energy Meter	19-23
5	18	Soumyendu Banerjee, Rajarshi Gupta and Jayanta Saha	Compression of Multilead Electrocardiogram Using Principal Component Analysis and Machine Learning Approach	24-28
7	19	Alok Kumar, Aditya, Saurav Raj and Aman Kumar Swarnkar ,Kundan Barnwal,Sudipta Debnath	A Single Ended Wavelet Based Fault Classification Scheme in Transmission Line	29-33
3	20	Anushree Roy and Sudipta Debnath	Smart Load for Reactive Power Compensation and Harmonic Suppression in Distribution System	34-38
)	21	Subhamita Roy and Sudipta Debnath	ANN Based Method for Power System Harmonics Estimation	39-43
0	22	Venkatesh Chakravartula and Dhanalakshmi Samiappan	A Bioinspired Temperature Invariant Underwater Optical Wireless Communication System	44-48
1	23	Apurba Das, Vinayak S Shenoy, Tanush Vinay and Shylaja S S	A Faster High-Dimensional Bilateral Image Filtering by Efficient Utilization of Color Sparseness Offline	49-53
12	24	Madhumita Kundu (Mondal), Sudipta Debnath	High Impedance Fault Classification in UPFC Compensated Double Circuit Transmission Lines using Differential Power Protection Scheme	54-58

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
13	25	Joydeep Mahato, Sougata Kumar Das Ujjwal Mondal, Anindita Sengupta	System Identification of an AVR and it's Control using Finite Dimensional Repetitive Controller	59-63
14	26	Somali Nandy, Bhaswati Goswami and Ratna Ghosh	Deriving a linear model for passively acquired bio- potentials using sample ACF.	64-68
15	27	Chayan Kumar Basak, Palash Kumar Kundu and Gautam Sarkar	Temperature Measurement by Thermal Tomography in a Chamber	69-73
16	28	Moumita Sahoo, Saurabh Pal and Madhuchhanda Mitra	A Novel Optic Disc and Blood Vessel Detection Algorithm	74-78
17	29	Anirban Chattopadhyay, Mofazzal H. Khondekar and Anup Kr. Bhattacharjee	Multivariate Singular Spectral Analysis (MSSA) to explore geomagnetic storm and CME bond	79-82
18	31	Hemanta Naskar, Vikas Nandeshwar and Siuli Das	Adulteration Detection of Grape Fruit Juice using PCA and LDA Pattern Recognition Technique	83-86
19	34	Simranjit Kaur, Sukhwinder Singh, Priti Arun and Damanjeet Kaur	EEG Based Decision Support System to Diagnose Adults with ADHD	87-91
20	35	Shilpi Saha, Debmalya Mukherjee, S.K. Lahiri and P.P. Marathe	Development of Speed Control algorithm for Instrumented Pipeline Inspection Gauge (IPIG) in high speed liquid petroleum pipelines	92-97
21	37	Paramita Banerjee, Ratna Ghosh and Bhaswati Goswami	Analysis of major mode of vibration of a RFA based dental implant stability measuring sensor with varying length of L arm	98-101
22	38	Paramita Banerjee and Ratna Ghosh	Electrical equivalent cascade model of piezoelectric based sensor	102-105
23	39	Arijit Ghosh, Palash Kumar Kundu and Gautam Sarkar	Automated lux measurement for lighting design in indoor space using mobile sensor	106-109
24	41	Arijit Ghosh, Sraddha Chakraborty, Avrajit Ghosh, Prajjwal Mondal, Asmita Mondal and Madhumita Guha	A Smart Irrigation System	110-113
25	44	Debojyoti Banerjee, Paramita Banerjee, Bhaswati Goswami and Ratna Ghosh	Deriving an electrical model of a two terminal piezoelectric buzzer from its impedance response	114-118

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
26	45	Arindam Sarkar, Somen Biswas, Gaytri Datwal, Sayantan Debnath, Bhaswati Goswami and Ratna Ghosh	Design and calibration of a multi-channel low voltage data acquisition system	119-123
27	46	Tanmoy Roy, Tshilidzi Marwala, Snehashish Chakraverty and Satyakama Paul	Introducing New Wavelet based Feature Set for Speech Emotion Classification	124-128
28	47	Swati Chowdhuri, Sriparna Banerjee and Sheli Sinha Chaudhuri	Implementation of a novel Minimum Energy Consume Secure Routing Protocol for reliable and energy efficient rescue operation of FANET	129-133
29	48	Srikanta Acharya, Trisita Nandy Chatterjee, Soumen Mukherjee, Runu Banerjee Roy, Bipan Tudu, Rajib Bandyopadhyay and Debangana Das	Optimization of Electrode Array in Electronic Tongue for Classification of Black Tea	134-137
30	50	Anu Bala and Chandan Singh	A Local Zernike Moment-based Fuzzy C-means Algorithm for Segmentation of Brain Magnetic Resonance Images	138-142
31	52	Avrajit Ghosh, Ayan Chatterjee, Arani Roy, Amitava Mukherjee and Mrinal Naskar	Snickometer Edge Detection by Feature Extraction in TF Plane and Wavelet Domain	143-148
32	55	Debaprasad De, Archisman Ghosh, K. Gaurav Kumar, Anurup Saha and Mrinal K. Naskar	Multiplier-less Hardware Realization of Trigonometric Functions for High Speed Applications	149-152
33	56	Subarno Pal, Susovan Jana and Ranjan Parekh	Super-Resolution of Textual Images using Autoencoders for Text Identification	153-157
34	57	Ronak Bhadra, Siddharth Dutta, Akash Kedia, Satyam Gupta, Parth Panigrahy and Paramita Chattopadhyay	Applied Machine Learning for Bearing Fault Prognostics	158-162
35	58	Sharmistha Mandal and Debarchita Mishra	Robust Control of Buck Converter using H-infinity Control Algorithm	163-167
36	59	Anima Pramanik, Apurba Gorai, Sobhan Sarkar and Phalguni Gupta	A Novel Feature Extraction-based Human Identification Approach using 2D Ear Biometric	168-172

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
37	60	Subhra De and Sudipta Debnath	Virtual Instrument for Measurement of Power Quality in Unbalanced Three Phase System	173-177
38	61	Anirban Panda	Speech Enhancement Using RNN models and Ideal Exponential Mask	178-182
39	62	Madhusree Mondal, Parmita Mondal,Samsptak Ghosh and Felix Orlando	Force Control of an Index Finger Exoskeleton for Rehabilitation Purpose	183-187
40	63	Chiranjib Koley and Anitha Bhukya	Time Delay Estimation of Ultra High Frequency Signals Radiated from Partial Discharge Sources	188-192
41	64	Saumita Kar, Bipan Tudu and Rajib Bandyopadhyay	Comparison of Different Data Pre-processing Techniques for the analysis of Turmeric Powders towards discrimination using Near-infrared Transmittance Spectra and Exploratory Data Analysis	193-197
42	66	Sayani Sarkar and Shantanu Pal	Photonic Network-on-Chip (NoC) Architectures for the High Performance Computing Systems	198-203
43	67	Sujata, Maitry Trivedi and Suman K Mitra	A Modular Approach For Facial Expression Recognition using Euler Principal Component Analysis (e-PCA)	204-208
44	68	Tanmoy Kundu, Salil Kumar Sanyal and Iti Saha Misra	Signal Processing Issues in FPGA Implementation of 3D Beamformer Using Adaptive Algorithms	209-213
45	69	Sayanjit Singha Roy, Ramkrishna Jana, Ritwick Barman, Sudip Modak, Preyashu Halder, Rohit Bose and Soumya Chatterjee	Detection of Healthy and Neuropathy Electromyograms Employing Stockwell Transform	214-218
46	70	Luv Patel, Kush Patel, Purvi A Koringa and Suman K Mitra	Scene-Change Detection using Locality Preserving Projections	219-223
47	72	Amrita Prasad, Soumya Roy, Subhash.Chandra Panja and Sankar Narayan Patra	Multifractal Analysis of the 10.7cm solar radio flux data	224-228
48	73	Arnab Ghosh, Subhabrata Roy and	Prefilter-Equalizer Based Structure : A New Design	229-233

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
		Abhijit Chandra	Strategy for Narrow-band FIR Filters	
49	74	Pubali De, Amitava Chatterjee and Anjan Rakshit	A Hybrid IRLS-KSVD Based Dictionary Learning Algorithm For Human Behavior Recognition	234-239
50	75	Sagnik Sen, Ashmita Dey and Ujjwal Maulik	Identifying Potential Hubs for Kidney Renal Clear Cell Carcinoma from TF-miRNA-Gene Regulatory Networks	240-244
51	76	Barnajit Ghosh, M. K. Bhuyan, Pradipta Sasmal, Yuji Iwahori and Prathik Gadde	Defect Classification of Printed Circuit Boards based on Transfer Learning	245-248
52	77	Jijomon C.M. and Vinod A.P.	EEG-based Biometric Identification using Frequently Occuring Maximum Power Spectral Features	249-252
53	78	Pradipta Sasmal, Yuji Iwahori, M. K. Bhuyan and Kunio Kasugai	Classification of Polyps in Capsule Endoscopic Images using CNN	253-256
54	79	Akash Roy Choudhury, Anik Ghosh, Rahul Pandey and Subhas Barman	Emotion Recognition from Speech Signals using Excitation Source and Spectral Features	257-261
55	80	Ayandeep Ganguly, Kuheli Goswami and Arindam Kumar Sil	ANN technique based Mid Term Load Forecasting as a case study for Peak Load Reduction	262-266
56	81	Tasmita Saha, Nirmal Murmu, Sayantan Chakraborty and Madhubanti Maitra	Robust Stabilization of Cart Inverted Pendulum System by 2-Rate Controller	267-272
57	82	Spandita Das, Sayantan Chakraborty and Madhubanti Maitra	Performance Evaluation of 2-Degrees-of-Freedom 2- Periodoc Controller: Stabilization of Cart-inverted Pendulum System	273-278
58	83	Kuheli Goswami, Ayandeep Ganguly and Arindam Kumar Sil	Day Ahead Forecasting and Peak load management using multivariate Auto Regression Technique	279-282
59	84	Susanta Ray, Toulik Chakraborty and Jayeeta Chaudhuri	A Comprehensive Model of Induction Motor for emulating different electrical Faults	283-287
60	85	Anupam Paul and Kaushik Das Sharma	Adaptation Switching Technique Based Hybrid Fuzzy Controller for a Class of Nonlinear Systems	288-292

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
61	86	Vipul Jindal, Varun Agarwal and S Kalaivani	Respiratory Sound Analysis for Detection of Pulmonary Diseases	293-296
62	87	Amith Achuthanunni, Ratul Kishore Saha and Pradipta Banerjee	Unconstrained Band-pass Optimized Correlation Filter (UBoCF): An application to face recognition	297-303
63	90	Nibaran Das, Swarnendu Ghosh, Ritesh Sarkhel, Bodhisatwa Mandal and Suvam Dubey	Handwritten Indic Character Recognition using Capsule Networks	304-308
64	91	Rupanjali Bhattacharjee and Abhinandan De	A Novel Distance-Connectivity based Bus-Ranking Framework Supplemented by GA for Cost Optimized PMU Placement	309-313
65	92	Wassim El Hajj Chehade, Riham Abdel Kader, Rola Kassem and Ali El-Zaart	Image Segmentation For Fingerprint Recognition	314-319
66	93	Pramit Brata Chanda and Subir Kumar Sarkar	Detection And Classification Technique Of Breast Cancer Using Multi Kernal SVM Classifier	320-325
67	94	Kaushik Sit and Ajoy Kumar Chakraborty	Real time measurement and analysis of non-linearity injected by computer loads in LT distribution system using LabVIEW.	326-331
68	95	Sneha Ray, Rajanikant Panda and Rose Dawn Bharath	Large-Scale Brain Network Modelling Using Graph- Theory Approach in Neuroscience	332-336
69	96	Biswajit Chakraborty, Yashaswi Raj, Nasirul Haque, Biswendu Chatterjee and Sovan Dalai	Studies on the effects of Al2O3 and TiO2 Nano materials on Conduction Properties of Mineral oil and Natural Ester based fluid	337-341
70	97	Sanmoy Chakraborty, Sanjoy Podder, Sudeshna Nath and Suhas Deb	Qualitative Analysis of Contamination Severity between NaCl and CuSO4 for Outdoor Insulator	342-345
71	98	Debasmit Dey, Angan Sarkar, Sounak Paul, Aman Kumar, Deepak Mishra, Arijit Baral, Nasirul Haque and Sivaji Chakravorti	Effect of Measurement Temperature on Interfacial Charge Freed from Deep Traps Located at the Interface of Oil-Paper Insulation	346-350
72	99	Ravi Verma, Deepak Mishra, Arijit Baral and Sivaji Chakravorti	Effect of Measurement Temperature of Insulation Poles Used for Assessment of Oil-paper Insulation	351-355

SI. No.	Paper ID	Authors' Name	Paper Title	Pages
73	100	Abhijit Patra, Krishnendu Chakrabarty and Tridibesh Nag	Control of Chaos in Bldc Motor Drive	356-359
74	101	Biswajit Chakraborty, Kausik Sen and Chanchal Dey	Real-time performance evaluation of a fuzzy rule based set point weighted PID controller	360-364
75	102	Subhabrata Naskar, Atreyee Saha, Debangshu Dey and Sugata Munshi	Cross Teager Kaiser Energy Features for Detection and Classification of Cardiac Arrhythmia from ECG Signals	365-370
76	103	Paulomi Bhowmick, Anisha Banerjee, Debangshu Dey and Sugata Munshi	Cross Teager-Kaiser Energy Operator based Feature Extraction Method for Gait Recognition from Cumulative Foot Pressure Images	371-374