2019 22nd International **Multitopic Conference** (INMIC 2019)

Islamabad, Pakistan 29-30 November 2019



IEEE Catalog Number: CFP19519-POD ISBN:

978-1-7281-4002-5

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:
 CFP19519-POD

 ISBN (Print-On-Demand):
 978-1-7281-4002-5

 ISBN (Online):
 978-1-7281-4001-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Proceedings

22nd IEEE International Multi Topic Conference 2019 (IEEE INMIC 2019)

Table of Contents

Foreword	iii
Organizing Committee	iv
Conference Volunteers	v
Sponsors	vi
Presented Papers	
Postural Control of Upright Stance with Robust Nonlinear Compensator in the Presence of	f Multiple
Delayed Feedback	•
Comparison of Trajectory Tracking Control of a Stewart Platform in 20-Sim and MATLAB	7
Study, Design and Analysis of an Optimized Off-gird Renewable AC/DC microgrid for a Rur	
Swabi, Pakistan	
Position driven sit-to-stand simulation using human body motion and force capture	19
Kinematic Modeling and Analysis of a 6 DOF Parallel Machining Bed	25
A Comparative Study of Maximum Powr Point Tracking Techniques for Solar Systems	30
Modeling, Design and Implementation of Hybrid Fixed-Wing Tri-copter	36
Pitch Attitude Control for an Aircraft using Linear Quadratic Integral Control Strategy	42
Aerodynamic Comparison of Unconventional Aircraft Tail Setup	48
Neuro based Integral Terminal Sliding Mode Nonlinear MPPT Control Paradigms for Stand	
Photovoltaic System	53
Coordinated Control of Multi-Agent Unmanned Air Vehicles Using Swarming Technique	61
Modeling and Control Design of a Straight Drive	66
Feedback Linearization using High Gain Observer for Nonlinear Electromechanical Actuator	or73

Design and Compliance Control of a Robotic Gripper for Orange Harvesting	78
Facial Expression Recognition using Discrete Cosine Transform & Artificial Neural Network	83
A Hybrid Adaptive Neuro-Fuzzy Inference System (ANFIS) Approach for Professional Bloggers Classification	88
An Ensemble Framework for Link Prediction in Signed Graph	94
On the Evaluation of the Machine Learning Based Hybrid Approach for Android Malware Detection $$	100
Sentiment Analysis of Sindhi Tweets Dataset using Supervised Machine Learning Techniques	108
A Comparative Study to Enhance the Performance of Web-Page Recommendation System	114
Deep-Learning Based Vehicle Count and Free Parking Slot Detection System	120
Tyre Defect Detection Based on GLCM and Gabor Filter Extensive Techniques to Detect Defects in Tyr through Radiography	
Extensive Techniques to Detect Defects in Tyres through Radiography	133
Significance of Linguistic Indicators for Location Prediction	137
Cross Input Neighbourhood Difference for Re-identification of Occupational Humans	143
Domain Identification of Urdu News Text	149
Automatic Car Braking System using Fuzzy Logic Controller with Environmental Factors	156
Corpus for Emotion Detection on Roman Urdu	164
An Efficient Performance Testing of Web Services	170
A New Approach for Agile Product Line Engineering	178
A Browsing Approach to Explore Web Image Search Results	185
Improving Requirements Coverage in Test Case Prioritization for Regression Testing	191
Improving Requirement Prioritization and Traceability using Artificial Intelligence Technique for Global Software Development	
An authentication based scheme for applications using JSON web token	205
RF Energy Harvesting for Portable Biomedical Devices	209
MIMO Antenna Array for mm-wave 5G Smart Devices	215
Modeling and Simulation of Flow-Based Circular Plate Type Piezoelectric Energy Harvester for Pipeline Monitoring	
A Bus Shaped Tri-band Antenna for Sub-6 GHz 5G Wireless Communication on Flexible PET Substrate	226
Beam-Steerable Antenna Array with Metasurface at Millimeter Wave Frequency Range	232
Overall and Disease-Free Survival Prediction of Postoperative Breast Cancer Patients using Machine Learning Techniques	238
Conditional Patch-based Generative Adversarial Network for Retinal Vessel Segmentation	244
Securing Internet of Bio-Nano Things: ML-Enabled Parameter Profiling of Bio-Cyber Interfaces	250

Fuzzy Logic based Enhanced Healthcare System for Elderly People (EHSEP)	258
DNA Compression using an innovative Index based Coding Algorithm	266
Collaborative Health Care Plan through Crowdsource Data using Ambient Application	272
Internal Power Reserve Estimation for Frequency Regulation in Storageless Photovoltaic System	278
A Received Signal Strength Based Localization Approach for Multiple Target Nodes via Bayesian Compressive Sensing	284
Analysis of Outage Probability and Rate Coverage in Heterogeneous Cellular Network with Joint Uni and Clustered Users	
Wideband Compressed Sensing based Frequency Hopping Radio Network Identification	297
Low Complexity MIMO Channel Estimation with Enhanced Tracking Performance using M-BEACON Algorithm	303
Detection of Dilated Cardiomyopathy using Pulse Plethysmographic Signal Analysis	309
Performance Analysis of VLC system using Commercially Available Components	314
Automated Detection and Classification of Gastrointestinal Diseases using surface-EMG Signals	318
Multimode wideband waveform for Software Defined Radio based on hybrid CPM-CDMA concept	326
Secure optical fiber transmission via ghost imaging	330
CSAR: Cooperative Stability Aware Routing Scheme for Acoustic Wireless Sensor Networks	333
Achieving Energy Efficiency for Bursty Traffic in Wireless Sensor Networks	341
Performance Evaluation of BEEM Clustering Algorithm in Mobile Wireless Sensor Networks	345
An Analysis of the state-of-the-art in Energy Efficient Localization Techniques in Wireless Sensor Network	352
Exploring Blockchain-Secured Data Validation in Smart Meter Readings	360
Performance Analysis of Narrowband Internet of Things (NB-IoT) Deployment Modes	367
Cloud-based Detection of Road Bottlenecks Using OBD-II Telematics	375
FUSCD – Future Smart Car Driver	382
Low Cost Internet of Things Platform for Structural Health Monitoring	389
Light Weight Secure Authentication for Accessing IoT Application Resources	396

Author Index