2019 International Conference on Engineering and Emerging Technologies (ICEET 2019)

Lahore, Pakistan 21-22 February 2019



IEEE Catalog Number: CFF ISBN: 978-

CFP19M57-POD 978-1-7281-0280-1

Copyright \odot 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:
 CFP19M57-POD

 ISBN (Print-On-Demand):
 978-1-7281-0280-1

 ISBN (Online):
 978-1-7281-0279-5

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



Contents

Reactive Power Management in Distributed Generation	1
Design of a Self-Sustained Farming System (SFS) for Pakistan	9
Longitudinal Stability Analysis of Business Jet Aircraft	15
Sliding Mode-based Model Predictive Torque Control of Induction Machine	22
Performance Evaluation of OpenStack Networking Technologies	27
Weapon Launch System Design of Anti-Terrorist UAV	33
Aircraft System Design of Anti-Terrorist UAV	41
Implementation of 3D Scanning Technique for Object Model Replication and Customization Using Rapid Prototyping	48
A Comparative study of Multilevel Inverter Typologies with Reduced switches	54
Face and Speech Recognition Based Smart Home; An offline Security and Automation System	59
Interference management in ad hoc networks	64
Efficient Multilevel Inverter for Distributed Generation System	70
An Automated Waste Control Management System (AWCMS) by using Arduino	79
A Bidirectional Interactive Electric Vehicles Operation Modes: Vehicle-to-Grid (V2G) and Grid-to-Vehicle (G2V) Variations within Smart Grid	85
Energy Efficiency: Digital Signal Processing Interactions within Smart Grid	91
Design & Analysis of Solar PV System for Sarhad University Peshawar	97
Voltage Regulation and Power Loss Minimization by Using Unified Power Flow Control Device	103
Investigation of Chaotic and Periodic Attractors in Nonlinear Autonomous Circuit	112
Performance Analysis of Supervised Classifiers using PCA based Techniques on Breast	117

Cancer

Prototyping of a Low Cost and Portable Cardiopulmonary Resuscitation Machine	123
Design and Analysis of Bidirectional SEPIC-Based Boost Multi-Port Converter	129
A Multiple-Input Multiple-Output Bipolar DC-DC Voltage Gain Converter with Backup Battery Port	135
AREd: Anatomy Learning Using Augmented Reality Application	141
An Approach for Mapping the Aspect State Models to Aspect-Oriented Code	147
ISUTD: Intelligent System for Urdu Text De-Summarization	153
PREDICTING ELECTIONS: SOCIAL MEDIA DATA AND TECHNIQUES	158
Automated Association of Narrowband Signatures with Broadband Tracking in Passive Underwater Surveillance Systems	164
Impact of inertial response for the Variable Speed Wind Turbine	170
Design of a Multi-Input Single-Output DC-DC Boost Converter for Micro Grid Application	176
Challenges, Opertunities and Educational Data Mining in Pakistan	182
Conventional PID, Adaptive PID, and Sliding Mode controllers design for Aircraft Pitch Control	188
Wall Shear Stress Measurement using an SOI CMOS Multisensor MEMS Chip	194
Design optimization of a Semi-Active Flapping Foil in an Energy Extraction Mode	199
Fault Detection using Sensors Data Trends for Autonomous Robotic Mapping	207
Design of MIMO Antenna System for 5G Indoor Wireless Terminals	213
Design and Control for a Multiport DC-DC Boost Converter with Battery Backup for Microgrid	217
Artificial Neural Network Based Self-tuned PID Controller for Flight Control of Quadcopter	223
Development of a software based PIC24F series Microcontroller Educational Trainer	228

Design and Analysis of Outer Segmental Rotor Synchronous Reluctance Machine for future Electric Bike	233
Implementation of micro controller based electromechanical over current relay for radial feeder protection	238
Performance Comparison of Novel Double Sided Yokeless Multitooth Permanent Magnet Flux Switching Machine	244
Human Computer Interaction based on Gestural Cues Recognition/Sign Language to Text Conversion	250
Using Neural Network to predict Unmanned Aerial Vehicle Strikes in Pakistan	255
IMPLICATIONS OF BLOCKCHAIN IN INDUSTRY 4.0	261
Usability Based Rating Scale for Mobile Health Applications	266
EADSA: Energy-Aware Distributed Sink Algorithm for Hotspot Problem in Wireless Sensor and Actor Networks	273
Towards Formalism of Link Failure Detection Algorithm for Wireless Sensor and Actor Networks	279
Internet of Things Security: A Survey and Taxonomy	285
Energy Audit, Retrofitting and Solarization in Educational Institutes of Pakistan: An Effective Approach towards Energy Conservation	291
Gestural User Interfaces For Hearing And Speech Impaired People Using KINECT	297
Fault Classification by Using Various Neural Network Architectures Based on PSCAD	305