2019 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER 2019)

Manipal, India
11 – 12 August 2019

IEEE

IEEE Catalog Number: CFP19F62-POD
ISBN: 978-1-7281-3736-0

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: CFP19F62-POD
ISBN (Print-On-Demand): 978-1-7281-3736-0
ISBN (Online): 978-1-7281-3735-3

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

2019 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER)

Table of Contents

Message from the General Chair i
Message from the Organizing Chairs ii
Message from the Technical Programme Committee Chairs iii
Conference Committee iv
Reviewers vii

Session I: Distributed Computing

Power Quality Event Classification Using Long Short-Term Memory Networks 1
Santhosh K G Manikonda, Joe Santhosh, Sanjayan Pradeep Kumar Sreekala, Siddharth Gangwani and Dattatraya N Gaonkar
Utility System For Elevating Pre and Post Production of Crops 6
Sulochana Roy, Rajeshwari S, Sowmya B J, Vinutha M S, and Seema S
Early Detection and Mitigation of DDoS attack instigated by compromised switches on controller in Software Defined Networks. 12
Sanjeetha. R, Ashutosh Pattanaik, Anshul Gupta and Anita Kanavalli
Privacy Preservation Mechanism For The Data Used In Image Authentication 17
Divya S, Prema K.V., and Balachandra Muniyal

Session II: Communications

Comparative study of heuristic TSP algorithms with Google Maps API 23
Ajumal P A, Ananthakrishnan S, Anubhav Jain, Athreya H N and K Chandrasekaran
High Speed Autonomous Navigation of Unmanned Aerial Vehicles using novel Road Identification, Following & Tracking (RIFT) Algorithm 29
Saumya Kumaar , Pragadeesh Raja S, Sumedh Mannar, Omkar S N and Navaneethkrishnan
Radio Frequency Communication Based Safety and Security System for Fishermen 35
Ajaykumar Maurya and Shalabh Gupta
Autonomous Utility Vehicle (AUVs) Based Emergency Human Drowning Detection System Using Sonar And Thermal Detection Methods 41
Yaswanthkumar S K, Praveen O K and Rohit R V

Session III: VLSI

Design of High Gain Operational Transconductance Amplifiers in 180nm CMOS technology 47
Ashika Nayak, Samarth Bonthala, Yashas Uppoor and M. S. Bhat
New RNS-To-Binary Converters for Three-Moduli Set {2n+1-1, 2n-1, 2n+k} 51
P. S. Phalguna, Dattaguru. V. Kamat and P. V. Ananda Mohan
Ultra low voltage, low power active-RC filter in 90 nm CMOS technology 57
Y. P. Yeshwanth, T. P. Vara Prasad,Vivek Mudadla, Pavan and Rekha S.

Session IV: Electrical and Electronic Circuits

Voltage Mode Controlled niPOL for Space Application 63
Saraswathy G, Mini Sujith and Asha Anand
Experimental Investigation on Thermal-Optical-Current Characteristics of Commercial Light Emitting Diodes 69
Anjan N. Padmasali and Savitha G. Kini
Comparative study of P, PI, PD and PID controllers for operation of a pressure regulating valve in a blow-down wind tunnel 74
Sumukh Surya, and D B Singh
Fuzzy-PI Controllers for Voltage and Frequency Regulation of a PV-FC Based Autonomous Microgrid 77

Pramod Bhat Nempu, Jayalakshmi N. S., Kevin Shaji and Mankanwal Singh

Session V: Robotics

Inverse Kinematics Solution for a Robotic Arm Through Geometric and Iterative Fusion Based Modelling 83
Shuvam Routray, Abraham T John, Aaqib Syed, Parul Jadhav

Geometrical Mapping of an Initially Unknown Region by a Mobile Robot 90
Shashank Rao Marpally, Nagarakshith M S, K. R. Guruprasad and Arjun Sadananda

Session VI: Healthcare

Fog computing enabled Ambient Assisted Healthcare systems 95
Vivek Dave, and Narayan Joshi

Clique Displacement: A New Layout Technique 102
Paras Bhagtya, VedPrakash Tilwe and K Chandrasekaran

Auto Removal of Bright Spot from Images Captured Against Flashing Light Source 108
Asha C S, Sooraj Kumar Bhat, Deepa Nayak and Chaithra Bhat

Muscle activation based estimation of Knee joint angle using Surface Electromyography Signals 114
S Saranya, S Poonguzhali and G Saraswathy

Session VII: Distributed Computing

Empirical Analysis of MapReduce Job Scheduling to Minimize Energy Consumption of Clusters 120
Sofia D'Souza and Prema K V

Word Sense Disambiguation using Bidirectional LSTM 125
Rakshith J, Sharath Savasere, Arvind Ramachandran, Akhila P and Shashidhar G. Koolagudi

Distributed Server Aging Analysis and Prediction with the help of AKNN Algorithm 131
Mrs. Arshiya Sultana Shaikh and Sangeeta Sangani

Session VIII: Communications

Duality properties for the variants of the Discrete W Transform (DWT) 137
Madhukar. B. N. and Bharathi. S. H.

Spectral Efficiency of MIMO-NOMA Cognitive Radios with Energy-Based Spectrum Sensing 144
Tamanna Yasrab and Sanjeev Gurugopinath

Comparative study of Narrowband and Wideband Opportunistic Spectrum Access Techniques 150
Anupama R, S.Y. Kulkarni and S.N Prasad

Significance of 2R Continuous Mode Optical Regenerators (CMORs) in Optical Network Impaired by Optical Linear Crosstalk 155
Deepa Kulal, Krithika Pai, Raksha Padiyar and Priyanka Desai Kakade

Similarity properties for the offshoots of the Generalized Discrete Hartley Transform (GDHT) 160
Madhukar. B. N. and Bharathi. S. H.

Session IX: VLSI

Power Reduction of a Functional unit using RT-Level Clock -Gating and Operand Isolation 166
Rashmi Samanth, Chaitanya CVS and G. Subramanya Nayak

Impact on the Design flow, due to Repositioning the Macros in the Floorplan stage of Video decoder at Lower Technologies 170
Vishnu uppula, Silpa kesav .v and Balaji vura

Design Automation of Network-on-Chip Prototype on FPGA 176
Divyansh Mahajan, Swarali Patil, Wagh Vipul Shashikant, Mohit Dangayach, P. Veda Bhanu, and Soumya J

Flexible Processor Architecture Design 180
Dvivedi Rohan Vipulkumar P. Veda Bhanu, and Soumya J

Session X: Electrical and Electronics Engineering

Operating Frequency Enhancement of Magnetic levitation system using fractional order PI^lamda D^mu Controller:Design and tuning 185
Samrat Banerjee, Rangoli Mukherjee, Malobi Mukherjee, Somosree Sengupta and Sandeep Pandey

Comparative Overview of Proportional-Integral, State Feedback Integral, and Sliding Mode Controllers for Buck Converter 191
Kadagala Gowri Shankar, Debashisha Jena and Reddiprasad Reddivari,
Micro Grid: An Energy Efficient Approach for Modern Power System 197
Kurian Kevin, Sangeeta Modi and P. Usha
Control Strategies for Power Management of PV/Battery System with Electric Vehicle 202
Swetha CH, Jayalakshmi N. S., Bhargavi K. M., and Pramod Bhat Nempu
Spatiotemporal electric field distribution in an EHV substation in view of occupational exposure 208
D Harimurugan, G S Punekar, and N K Kishore

Session XI: Communications

GSM based Accelerometer Mounted Accident Detection with Location Tracking and Survivor's Condition Monitoring System 213
Aakash Choudhury, Arjav Choudhury and Ruban Nersisson
Overview On 5G-Massive MIMO Cellular Communication 219
H Srikanth Kamath, and Adarsh
Performance Comparison of Joint Correlation and Improved Energy Detection for Spectrum Sensing 225
Arati Halaki, Sanjeev Gurugopinath and R. Muralishankar
MIMO Channel Capacity Enhancement Using PCA Data Reduction Methods with QPSK Modulation 231
Panem Charanarur, Deepak Chodankar and Rajendra S. Gad

Session XII: Healthcare

Predicting Difficulties in Mask Ventilation using Machine Learning Techniques 235
D.K.Sreekantha, Roline Stapny Saldanha, Jotsna Gowda Krishnappa, Sripada G. Mehandale, Rodrigues Rhea Carmel Glen and Prajna M K
Machine learning based sensitivity analysis for the applications in the prediction and detection of cancer disease 241
Sugandha Saxena and S.N Prasad
Prediction of difficulties in Intubation using an expert system. 245
D. K Sreekantha, Rodrigues Rhea Carmel Glen, Prajna M K, Sripada G. Mehandale, Roline Stapny Saldanha, Gowda Jotsna Krishnappa
A Statistical approach to evaluate the efficiency and effectiveness of the Machine Learning algorithms analyzing Sentiments 252
Archana Praveen Kumar, Ashalatha Nayak and Manjula Shenoy K
Kannada Handwritten Script Recognition using Machine Learning Techniques 258
Roshan Fernandes and Anisha P Rodrigues

Session XIII: Electrical and Electronics Engineering

Battery Management System Design for Electric Vehicle 264
Manideep Cherukuri, Kanthi M
Improved fault detection using Dynamic Independent Component Analysis (DICA): An application to multi-variate system 270
Ramkrishna Kini M and Muddu Madakyaru
Design and Development of Solar Powered Automatic Grain Dryer for Storage 276
Aditya Jain, Rohitha R, Aftab Pasha H, Kiran Kumar B M and Balaji V

Session XIV: Healthcare

Assessment of Image Enhancement Procedures for Matching Sketches to Photos 280
Sannidhan M S, Chaitra K M and Ananth Prabhu G
Analysis Of Concealed Anger Emotion In A Neutral Speech Signal 285
Vamsi Vijay Mohan Dattada and M Jeevan
Development of Integrated Health Care App for Non - Invasive Bio - Medical Application 290
B K Swathi Prasad, Sunil D, Ashok Gowda, Kotraswamy and Vijay
A Study of Imaging the Cardiac Activation Sequences in Electrocardiology 295
Vikas R Bhat and Anitha H
Speech App to Enhance Fluency of Stutterers Using Artificial Neural Networks 301

Sharan Narasimhan and Rohini R. Rao
Improvement of health and well-being of human beings using tunable white LEDs 306
Lester Shaun Sequeira and Siddhartha
Transliteration of text input from Kannada to Braille and vice versa 311
Saritha Shetty, Sarika Hegde, Savitha Shetty and Karuna Pandit
An Experimental Framework for Automated Bed Localization and Drug Identification Using ZigBee Signal Strength and Mobile Robot 315
Udaykumar Naik, Shivang Bhuatara and Basavaraj Chougala