

2015 IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions (WCI 2015)

**Kanpur, India
14 – 17 December 2015**



**IEEE Catalog Number: CFP15D73-POD
ISBN: 978-1-4673-8219-9**

**Copyright © 2015 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 publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP15D73-POD
ISBN (Print-On-Demand):	978-1-4673-8219-9
ISBN (Online):	978-1-4673-8215-1

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

A

A Novel Model of Selecting High Quality Pseudo-Relevance Feedback Documents using Classification Approach for Query Expansion....1

A Review on Advances in Deep Learning....7

A Robust Digital Image Watermarking Technique using Auto Encoder based Convolutional Neural Networks....13

Allocation of Phasor Measurement Unit using A-star Method in Connected Power Network....19

An efficient clustering approach based on hybridization of PSO, Fuzzy logic and K-harmonic means....25

An Efficient Low Dynamic Range Image Compression using Improved Block Based EZW....31

B

Butterfly Optimizer....37

C

Classification and Analysis of EEG signals for Imagined Motor Movements....43

Comparative Analysis of Classification Techniques for Motor Imagery Based BCI50

Comparison and Analysis of Solving Travelling Salesman Problem Using GA, ACO and Hybrid of ACO with GA and CS....54

Connected Coverage in Wireless Sensor Networks using Genetic Algorithm....59

Controlling of an Automatic Voltage Regulator using Optimum Integer and Fractional Order PID Controller....65

Coordinated Optimal Placement of Distributed Generation and Voltage Regulator by Multi-objective Efficient PSO Algorithm....70

Cost-Benefit and Reliability Analysis of Prognostic Health Management Systems Using Fuzzy Rules....76

D

Data Preprocessing methods for Sparse Auto-encoder based Fuzzy Rule Classifier....85

E

Embedded realization of a real time Heart Rate Variability logger for at-home sleep studies....91

Estimation of Loss Factor and System Parameters of Active Magnetic Thrust Bearing using RBF Neural Networks and Differential Evolution....97

Expectation Maximization algorithm made fast for Large Scale Data....103

Experimenting with neutrosophic ontologies for medical data classification....110

F

Face Recognition by Fuzzy Generalized 2DFLD Method and RBF Neural Network Classifier....116

Fast and Efficient Contrast Enhancement For Real time Video Dehazing and Defogging....122

Fast Data Sampling for Large Scale Support Vector Machines....127

Fault-Tolerant Routing over All Shortest Node-Disjoint Paths in Hypercube Networks....133

Frequency Control of an Isolated Hydro Power Plant Using Artificial Intelligence....136

Fuzzy based Unequal Energy Aware Clustering with Multi-hop Routing in Wireless Sensor Network....141

M

Machine Learning Techniques for Cognitive Decision Making....151

Machine-Part Cell Formation for Maximum Grouping Efficacy Based on Genetic Algorithm....157

Malicious Behavior in Online Social Network....163

Model for Cyber Attacker Behavioral Analysis....169

Modelling of the Simplest Fuzzy PID Controller of Takagi-Sugeno Type using Algebraic Product t-norm and Maximum t-co-norm....173

Motion planning of a mobile manipulator using fuzzy controller to dexterity measures....179

N

Neural Network and Fuzzy Logic Controllers for Three-Phase Three-level Shunt Active Power Filter....185

Nonlinear Control Design for Quadrotors....191

Nonparallel Hyperplane Classifiers for Multi-category Classification....197

O

Online Word of Mouth using Text Mining: A Review of Literature and Future Directions....203

Optimal Feature Selection using Elitist Genetic Algorithm....209

Optimal Operation of Autonomous Microgrid for Minimization of Energy Loss, Cost and Voltage Deviation....214

P

Performance of Particle Swarm Optimization and Pattern Search on CEC 2013 Real Parameter Single Objective Optimization....220

Prediction of Landslide Deformation Using Back- Propagation Neural Network....226

Priority Based Optimal Path Routing For Automated Guided Vehicle....231

R

Random Number Generation based on Sensor with Decimation Method....238

S

Sensor Data Analysis and Anomaly Detection using Predictive Analytics for Process Industries....243

Stabilization at upright equilibrium position of Rotary Inverted Pendulum using particle swarms with constrained optimization....251

T

Towards understanding basic movements in humans: Analysis of Saccadic eye movements and hand EMG signals....256

V

Variance based Product Recommendation using Clustering and Sentiment Analysis....262

Vision Based Obstacle Avoidance and Recognition System....267

Visualization of Network Data for Effective Semantic Analysis....274