

2018 5th International Conference on Soft Computing & Machine Intelligence (ISCMI 2018)

Nairobi, Kenya
21 – 22 November 2018



IEEE Catalog Number: CFP1844Z-POD
ISBN: 978-1-7281-1302-9

**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:	CFP1844Z-POD
ISBN (Print-On-Demand):	978-1-7281-1302-9
ISBN (Online):	978-1-7281-1301-2
ISSN:	2640-0154

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

5th International Conference on Soft Computing and Machine Intelligence

(ISCFMI 2018)

Table of Contents

Preface	vi
Committees	viii
Algorithm Design and Intelligent Computing	
Flexible Modularized Artificial Neural Network Implementation on FPGA.....	1
<i>Kiruki Cosmas, Kenichi Asami</i>	
Hybridized Modified Bat Algorithm with Cardinal Priority Ranking for Solving Multi Area Environmental Economic Dispatch Problem	6
<i>Seline A. Olang'o, Moses Peter Musau, Nicodemus Abungu Odero</i>	
Near Real-time Performance of Population-based Nature-Inspired Algorithms on Cheaper and Older Smartphones	12
<i>Iztok Fister Jr., Suash Deb, Iztok Fister</i>	
Evaluation Model for Improving Ambient Learning Systems Towards Achieving Sustainable Development Goal Four	17
<i>Simon Nyaga Mwendia</i>	
An Analysis of Several Machine Learning Algorithms for Imbalanced Classes	22
<i>Soma Datta, Anuprabha Arputharaj</i>	
Review of Trends in Topic Modeling Techniques, Tools, Inference Algorithms and Applications	28
<i>Christine K. Mulunda, Peter W. Wagacha, Lawrence Muchemi</i>	
Dynamic Vector Quantization for Reinforcement Learning (DVQRL)	38
<i>Evans Miriti, Andrew Mwaura</i>	
Evolutionary Neural Network-based Method for Constructing Surrogate Model with Small Scattered Dataset and Monotonicity Experience	43
<i>Jia Hao, Wenbin Ye, Guoxin Wang, Liangyue Jia, Ying Wang</i>	
Advanced Information Technology and Data Analysis	
The ACDF Algorithm in the Stream Data Analysis for the Bank Telemarketing Campaign	49
<i>Jan Kozak, Przemysław Juszczuk</i>	
<i>k</i> -Means-Lite: Real Time Clustering for Large Datasets.....	54
<i>Peter O. Olukanmi, Fulufhelo Nelwamondo, Tshilidzi Marwala</i>	

Fast Cluster-learning with Prior Probability from Big Dataset	60
<i>Tengyue Li, Simon Fong, Joao Alexandre Lobo Marques, Raymond K. Wong</i>	
Feature Extraction and Classification of Movie Reviews	67
<i>Nhamo Mtetwa, Awukam Ojang Awukam, Mehdi Yousefi</i>	
Automatic Semantic Network Generation from Unstructured Documents – The Options	72
<i>Barack Wamkaya Wanjawa, Lawrence Muchemi</i>	
Synthesis of Hypothetical Sociograms for Social Network Analysis.....	79
<i>Abejide Ade-Ibijola</i>	
Identifying Sub-documents in a Composite Scanned Document Using Naive Bayes, Levenshtein Distance and Domain Driven Knowledge Base	84
<i>Oluwatosin Ogundare, Nathaniel Wiggins</i>	
A Comparative Study of Supervised and Unsupervised Classifiers Utilizing Extractive Text Summarization Techniques to Support Automated Customer Query Question-Answering.....	88
<i>Kevin Lanyo, Agnes Wausi</i>	
Feature Extraction and Classification of Spam Emails	93
<i>Muhammad Ali Hassan, Nhamo Mtetwa</i>	
Automatic Slicing and Comprehension of CVs	99
<i>Martin Cronje and Abejide Ade-Ibijola</i>	
Computer Science and Engineering	
Real-time Fault Diagnosis of Rotating Machinery Using 1-D Convolutional Neural Network.....	104
<i>Xingchen Liu, Qicai Zhou & Hehong Shen</i>	
A New Method for Webpage Watermarking Base on Empty Styles	109
<i>Jianping Chen, Liang Cai, Weixu Chen, Wanzhi Wen</i>	
Fuzzy Logic Based Context Aware Recommender for Smart E-learning Content Delivery	114
<i>Kevin Otieno Gogo, Lawrence Nderu, Ronald Waweru Mwangi</i>	
IWCA Algorithm for Clustered Drone Information Transmission Network	119
<i>Haohua Duan, Zhengtao Wang, Yangyang Liu, Xingqian Li, Hexiang Huang, Hongwei Zhao</i>	
Deployment of Batch Mode Scientific Workflow on a Computation-as-a-Service Private Cloud	123
<i>Yiyi Xu, Pengfei Liu, Irene Penesis, Guanghua He</i>	
Human-Robot Collaborative Semi-Autonomous Teleoperation with Force Feedback.....	129
<i>Ji Liang, Ge Yu, Lili Guo</i>	
Handling Uncertainty Online for Self-Adaptive Systems	135
<i>Wen Cheng, Qingshan Li, Lu Wang, Liu He</i>	
Multi-view Convolution Neural Network with Swarm Search Based Hyperparameter Optimization for Enhancing Heart Disease and Breast Cancer Detection	140
<i>Kun Lan, Tengyue Li, Simon Fong, Joao Alexandre Lobo Marques, Raymond K. Wong</i>	
Personalized Real Time Human Activity Recognition.....	147
<i>Moses L. Gadebe, Okuthe P. Kogeda, Sunday O. Ojo</i>	

Analyse Near Collision Situations of Ships Using Automatic Identification System Dataset.....	155
<i>Thisara Watawana, Amitha Caldera</i>	
Abalone Life Phase Classification with Deep Learning.....	163
<i>Egemen Sahin, Can Jozef Saul, Eran Ozsarfati, Alper Yilmaz</i>	