2016 IEEE RIVF International Conference on Computing & Communication Technologies, Research, Innovation, and Vision for the Future (RIVF 2016)

Hanoi, Vietnam 7-9 November 2016



IEEE Catalog Number: ISBN:

CFP1656A-POD 978-1-5090-4135-0

Copyright © 2016 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:
 CFP1656A-POD

 ISBN (Print-On-Demand):
 978-1-5090-4135-0

 ISBN (Online):
 978-1-5090-4134-3

ISSN: 2162-786X

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



Table of Contents

Computational Intelligence and Big Data Analytics	1
A New Viral Marketing Strategy with the Competition in the Large-Scale Online Social Networks	_ 1
A Semi-Supervised Approach for Temporal Information Extraction from Clinical Text Gandhimathi Moharasan and Tu-Bao Ho	_ 7
A Suite of Techniques to Improve Random Projection in Time Series Motif Discovery	13
About Cooperation of Multiagent Collective Products: An Approach in the Context of Cyber-Physical Systems Afra Khenifar-Bessadi, Jean-Paul Jamont, Michel Occello, Choukri-Bey Ben-Yelles and Mouloud Koudil	19
Ajra Knenijar-Bessaai, Jean-Paui Jamoni, Michel Occello, Choukri-Bey Ben-Telles and Mouloud Koudii	
Accelerating the Distributed Simulations of Agent-Based Models using Community Detection Antoniya Petkova, Charles Hughes, Narsingh Deo and Martin Dimitrov	25
An Effective GRASP+VND Metaheuristic for the k-Minimum Latency Problem Ha Bang Ban and Duc Nghia Nguyen	31
An Improved Artificial Immune Network for Solving Construction Site Layout Optimization Duc Quang Vu, Van Truong Nguyen and Xuan Huan Hoang	37
Automatic De-Identification of Medical Records with a Multilevel Hybrid Semi-Supervised Learning Approach	43
Nguyen Dong Phuong and Vo Thi Ngoc Chau	
Causality Analysis between Climatic Factors and Dengue Fever Using the Granger Causality Pham Nguyen Hoang, Jean Daniel Zucker, Marc Choisy and Ho Tuong Vinh	49
Combining Transfer Learning and Co-training for Student Classification in an Academic Credit System	55
Effect of Social Capital on Emotion, Language Style and Latent Topics in Online Depression Community Bo Dao, Thin Nguyen, Svetha Venkatesh and Dinh Phung	61
Semantic Text Alignment Based on Topic Modeling	67
Huong T. Le, Lam N. Pham, Duy D. Nguyen, Son V. Nguyen and An N. Nguyen	

Communications and Networking	73
A RESTful Task Allocation Mechanism for the Web of Things El-Mehdi Khalfi, Jean-Paul Jamont, Michael Mrissa and Lionel Médini	73
An Estimation Scheme Based on Pairwise Broadcast to Synchronize Wireless Sensor Networks Nasiroh Chedoloh and Watcharapan Suwansantisuk	79
Load Balancing Using Multipath Routing in Network Functions Virtualization	85
Malicious HTTP Communication Detection Based on Access Graph Analysis	91
Performance Evaluation of Distributed File Systems under Cloud Computing Environment: Small-File Problem Thanh Duong and Quoc Luu	96
Searching of Best-Effort Messages in TTEthernet Switches during the Timely Blocking Intervals Ekarin Suethanuwong and Sangnapa Hirunmutraporn	102
Image, Language and Speech Processing	108
A Fast and Efficient Reversible Watermarking Method Using Generalized Integer Transform	108
A Hybrid Approach to Vietnamese Word Segmentation Tuan-Phong Nguyen and Anh-Cuong Le	114
A Many-to-One Phone Mapping Approach for Cross-Lingual Speech Recognition Van Hai Do, Nancy F. Chen, Boon Pang Lim and Mark Hasegawa-Johnson	120
A Reordering Model for Vietnamese-English Statistical Machine Translation Using Dependency Information Viet Hong Tran, Huyen Thuong Vu, Thu Hoai Pham, Vinh Van Nguyen and Minh Le Nguyen	125
Blind Deblurring Using Adaptive Image Model Ngoc-Thuy Le and Ngoc-Minh Nguyen	131
Blind Method for Phone Segmentation Using Gaussian Function Locally	137
Classifying Human Body Postures by a Two-Neuron Fuzzy Neural Network	142
Fast Parallel Blur Detection of Digital Images Giang Son Tran. Thi Phuong Nghiem. Nhat Quang Doan. Alexis Drogoul and Luong Chi Mai	147

Gaussian Filtering Detection Based on Features of Residuals in Image Forensics Jae Jeong Hwang and Kang Hyeon Rhee	153
New No-Reference Stereo Image Quality Method for Image Communication Wang Ying, Yu Mei, Chen Fen and Gangyi Jiang	158
Phase Synchronization in a Manifold Space for Recognizing Dynamic Hand Gestures from Periodic Image Sequence	163
Huong-Giang Doan, Hai Vu and Thanh-Hai Tran	
Spatial and Spectral Features Utilization on a HyperSpectral Imaging System for Rice Seed Varietal Purity Inspection	169
Hai Vu, Christos Tachtatzis, Paul Murray, David Harle, Trung Kien Dao, Thi-Lan Le, Ivan Andonovic and Stephen Marshall	
Speed Up Temporal Median Filter and Its Application in Background Estimation	175
Streaming Aspect-Sentiment Analysis	181
Vu Le Anh, Chien Phung Van, Cuong Vu Cao, Linh Ngo Van and Khoat Than	. 101
Towards a Syntactically and Semantically Enriched Lexicon for Vietnamese Processing	187
Computational Biomedicine	193
A Frequency-Based Gene Selection Method with Random Forests for Gene Data Analysis	193
A Multi-Scale Model for Spreading of Infectious Disease in an Office Building	199
An Artificial Neural Network Approach for Electroencephalographic Signal Classification towards Brain-Computer Interface Implementation	205
Nguyen The Hoang Anh, Tran Huy Hoang, Do Tien Dung, Vu Tat Thang and T.T. Quyen Bui	
Assessing Human Disease Phenotype Similarity Based on Ontology	211
Detection of Lesion Region in Skin Images by Moment of Patch Dao Nam Anh	217
Detection of New Drug Indications from Electronic Medical Records <i>Tran-Thai Dang, Phetnidda Ouankhamchan and Tu-Bao Ho</i>	223
Quantifying the Effect of Synchrony on the Persistence of Infectious Diseases in a Metapopulation	_ 229

Real-Time Brainwave-Controlled Interface Using P300 Component in EEG Signal Processing Ha Hoang Kha and Vo Anh Kha	235
System Pharmacology: Application of Network Theory in Predicting Potential Adverse Drug Reaction	241
Based on Gene Expression Data Duy Pham, Bao-Khanh Le, Tu-Bao Ho and Ly Le	241
Software Engineering and Information Systems	_ 247
Domain-Driven Design Patterns: A Metadata-Based Approach Duc Minh Le, Duc-Hanh Dang and Viet-Ha Nguyen	247
Author Index	_ 253