Lecture Notes in Computer Science 7667

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison
Lancaster University, UK

Takeo Kanade
Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler
University of Surrey, Guildford, UK

Jon M. Kleinberg
Cornell University, Ithaca, NY, USA

Alfred Kobsa
University of California, Irvine, CA, USA

Friedemann Mattern
ETH Zurich, Switzerland

John C. Mitchell
Stanford University, CA, USA

Moni Naor
Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz
University of Bern, Switzerland

C. Pandu Rangan
Indian Institute of Technology, Madras, India

Bernhard Steffen
TU Dortmund University, Germany

Madhu Sudan
Microsoft Research, Cambridge, MA, USA

Demetri Terzopoulos
University of California, Los Angeles, CA, USA

Doug Tygar
University of California, Berkeley, CA, USA

Gerhard Weikum
Max Planck Institute for Informatics, Saarbruecken, Germany

Tingwen Huang Zhigang Zeng
Chuandong Li Chi Sing Leung (Eds.)

Neural Information Processing

19th International Conference, ICONIP 2012
Doha, Qatar, November 12-15, 2012
Proceedings, Part V

Springer

Volume Editors

Tingwen Huang
Texas A&M University at Qatar, Education City
P.O. Box 23874, Doha, Qatar
E-mail: tingwen.huang@qatar.tamu.edu

Zhigang Zeng
Huazhong University of Science and Technology
Department of Control Science and Engineering
1037 Luoyu Road, Wuhan, Hubei 430074, China
E-mail: zgzeng@gmail.com

Chuandong Li
Chongqing University, College of Computer Science
174 Shazhengjie Street, Chongqing 400044, China
E-mail: licd@cqu.edu.cn

Chi Sing Leung
City University of Hong Kong, Department of Electronic Engineering
83 Tat Chee Avenue, Kowloon, Hong Kong, China
E-mail: eeleungc@cityu.edu.hk

ISSN 0302-9743 e-ISSN 1611-3349
ISBN 978-3-642-34499-2 e-ISBN 978-3-642-34500-5
DOI 10.1007/978-3-642-34500-5
Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2012949896

CR Subject Classification (1998): F.1, I.2, I.4-5, H.3-4, G.3, J.3, C.1.3, C.3

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

© Springer-Verlag Berlin Heidelberg 2012
This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.
The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

This volume is part of the five-volume proceedings of the 19th International Conference on Neural Information Processing (ICONIP 2012), which was held in Doha, Qatar, during November 12–15, 2012. ICONIP is the annual conference of the Asia Pacific Neural Network Assembly (APNNA). This series of conferences has been held annually since 1994 and has become one of the premier international conferences in the areas of neural networks.

Over the past few decades, the neural information processing community has witnessed tremendous efforts and developments from all aspects of neural information processing research. These include theoretical foundations, architectures and network organizations, modeling and simulation, empirical study, as well as a wide range of applications across different domains. Recent developments in science and technology, including neuroscience, computer science, cognitive science, nano-technologies, and engineering design, among others, have provided significant new understandings and technological solutions to move neural information processing research toward the development of complex, large-scale, and networked brain-like intelligent systems. This long-term goal can only be achieved with continuous efforts from the community to seriously investigate different issues of the neural information processing and related fields. To this end, ICONIP 2012 provided a powerful platform for the community to share their latest research results, to discuss critical future research directions, to stimulate innovative research ideas, as well as to facilitate multidisciplinary collaborations worldwide.

ICONIP 2012 received tremendous submissions authored by scholars coming from 60 countries and regions across six continents. Based on a rigorous peer-review process, where each submission was evaluated by at least two reviewers, about 400 high-quality papers were selected for publication in the prestigious series of *Lecture Notes in Computer Science*. These papers cover all major topics of theoretical research, empirical study, and applications of neural information processing research. In addition to the contributed papers, the ICONIP 2012 technical program included 14 keynote and plenary speeches by Majid Ahmadi (University of Windsor, Canada), Shun-ichi Amari (RIKEN Brain Science Institute, Japan), Guanrong Chen (City University of Hong Kong, Hong Kong), Leon Chua (University of California at Berkeley, USA), Robert Desimone (Massachusetts Institute of Technology, USA), Stephen Grossberg (Boston University, USA), Michael I. Jordan (University of California at Berkeley, USA), Nikola Kasabov (Auckland University of Technology, New Zealand), Juergen Kurths (University of Potsdam, Germany), Erkki Oja (Aalto University, Finland), Marios M. Polycarpou (University of Cyprus, Cyprus), Leszek Rutkowski (Technical University of Czestochowa, Poland), Ron Sun (Rensselaer Polytechnic Institute, USA), and Jun Wang (Chinese University of Hong Kong, Hong Kong). The

ICONIP technical program included two panels. One was on "Challenges and Promises in Computational Intelligence" with panelists: Shun-ichi Amari, Leon Chua, Robert Desimone, Stephen Grossberg and Michael I. Jordan; the other one was on "How to Write Better Technical Papers for International Journals in Computational Intelligence" with panelists: Derong Liu (University of Illinois of Chicago, USA), Michel Verleysen (Université catholique de Louvain, Belgium), Deliang Wang (Ohio State University, USA), and Xin Yao (University of Birmingham, UK). The ICONIP 2012 technical program was enriched by 16 special sessions and "The 5$^{\text{th}}$ International Workshop on Data Mining and Cybersecurity." We highly appreciate all the organizers of special sessions and workshop for their tremendous efforts and strong support.

Our conference would not have been successful without the generous patronage of our sponsors. We are most grateful to our platinum sponsor: *United Development Company PSC (UDC)*; gold sponsors: *Qatar Petrochemical Company, ExxonMobil* and *Qatar Petroleum*; organizers/sponsors: *Texas A&M University at Qatar* and *Asia Pacific Neural Network Assembly*. We would also like to express our sincere thanks to the IEEE Computational Intelligence Society, International Neural Network Society, European Neural Network Society, and Japanese Neural Network Society for technical sponsorship.

We would also like to sincerely thank Honorary Conference Chair Mark Weichold, Honorary Chair of the Advisory Committee Shun-ichi Amari, the members of the Advisory Committee, the APNNA Governing Board and past presidents for their guidance, the Organizing Chairs Rudolph Lorentz and Khalid Qaraqe, the members of the Organizing Committee, Special Sessions Chairs, Publication Committee and Publicity Chairs, for all their great efforts and time in organizing such an event. We would also like to take this opportunity to express our deepest gratitude to the members of the Program Committee and all reviewers for their professional review of the papers. Their expertise guaranteed the high quality of the technical program of the ICONIP 2012!

We would like to express our special thanks to Web manager Wenwen Shen for her tremendous efforts in maintaining the conference website, the publication team including Gang Bao, Huanqiong Chen, Ling Chen, Dai Yu, Xing He, Junjian Huang, Chaobei Li, Cheng Lian, Jiangtao Qi, Wenwen Shen, Shiping Wen, Ailong Wu, Jian Xiao, Wei Yao, and Wei Zhang for spending much time to check the accepted papers, and the logistics team including Hala El-Dakak, Rob Hinton, Geeta Megchiani, Carol Nader, and Susan Rozario for their strong support in many aspects of the local logistics.

Furthermore, we would also like to thank Springer for publishing the proceedings in the prestigious series of *Lecture Notes in Computer Science*. We would, moreover, like to express our heartfelt appreciation to the keynote, plenary, panel, and invited speakers for their vision and discussions on the latest

research developments in the field as well as critical future research directions, opportunities, and challenges. Finally, we would like to thank all the speakers, authors, and participants for their great contribution and support that made ICONIP 2012 a huge success.

November 2012

Tingwen Huang
Zhigang Zeng
Chuandong Li
Chi Sing Leung

Organization

Honorary Conference Chair

Mark Weichold	Texas A&M University at Qatar, Qatar

General Chair

Tingwen Huang	Texas A&M University at Qatar, Qatar

Program Chairs

Andrew Leung	City University of Hong Kong, Hong Kong
Chuandong Li	Chongqing University, China
Zhigang Zeng	Huazhong University of Science and Technology, China

Advisory Committee

Honorary Chair

Shun-ichi Amari	RIKEN Brain Science Institute, Japan

Members

Majid Ahmadi	University of Windsor, Canada
Sabri Arik	Istanbul University, Turkey
Salim Bouzerdoum	University of Wollongong, Australia
Jinde Cao	Southeast University, China
Jonathan H. Chan	King Mongkut's University of Technology, Thailand
Guanrong Chen	City University of Hong Kong, Hong Kong
Tianping Chen	Fudan University, China
Kenji Doya	Okinawa Institute of Science and Technology, Japan
Wlodzislaw Duch	Nicolaus Copernicus University, Poland
Ford Lumban Gaol	Bina Nusantara University, Indonesia
Tom Gedeon	Australian National University, Australia
Stephen Grossberg	Boston University, USA
Haibo He	University of Rhode Island, USA
Akira Hirose	University of Tokyo, Japan
Nikola Kasabov	Auckland University of Technology, New Zealand

Irwin King	The Chinese University of Hong Kong, Hong Kong
James Kwow	Hong Kong University of Science and Technology, Hong Kong
Soo-Young Lee	Advanced Institute of Science and Technology, Korea
Xiaofeng Liao	Chongqing University, China
Chee Peng Lim	Universiti Sains Malaysia, Malaysia
Derong Liu	University of Illinois at Chicago, USA
Bao-Liang Lu	Shanghai Jiao Tong University, China
John MacIntyre	University of Sunderland, UK
Erkki Oja	Helsinki University of Technology, Finland
Nikhil R. Pal	Indian Statistical Institute, India
Marios M. Polycarpou	University of Cyprus, Cyprus
Leszek Rutkowski	Czestochowa University of Technology, Poland
Noboru Ohnishi	Nagoya University, Japan
Ron Sun	Rensselaer Polytechnic Institute, USA
Ko Sakai	University of Tsukuba, Japan
Shiro Usui	RIKEN, Japan
Xin Yao	University of Birmingham, UK
DeLiang Wang	Ohio State University, USA
Jun Wang	Chinese University of Hong Kong, Hong Kong
Li-Po Wang	Nanyang Technological University, Singapore
Rubin Wang	East China University of Science and Technology, China
Zidong Wang	Brunel University, UK
Huaguang Zhang	Northeastern University, China

Organizing Committee

Chairs

Rudolph Lorentz	Texas A&M University at Qatar, Qatar
Khalid Qaraqe	Texas A&M University at Qatar,Qatar

Members

Hassan Bazzi	Texas A&M University at Qatar, Qatar
Hala El-Dakak	Texas A&M University at Qatar, Qatar
Mohamed Elgindi	Texas A&M University at Qatar, Qatar
Jihad Mohamad Jaam	Qatar University, Qatar
Samia Jones	Texas A&M University at Qatar, Qatar
Uvais Ahmed Qidwai	Qatar University, Qatar
Paul Schumacher	Texas A&M University at Qatar, Qatar

Special Sessions Chairs

Zijian Diao	Ohio University, USA
Hassab Elgawi Osman	The University of Tokyo, Japan
Paul Pang	Unitec Institute of Technology, New Zealand

Publicity Chairs

Mehdi Roopaei	Shiraz University, Iran
Enchin Serpedin	Texas A&M University,USA
Maolin Tang	Queensland University of Technology, Australia

Program Committee Members

Sabri Arik
Emili Balaguer Ballester
Gang Bao
Matthew Casey
Li Chai
Jonathan Chan
Mou Chen
Yangquan Chen
Mingcong Deng
Ji-Xiang Du
El-Sayed El-Alfy
Osman Elgawi
Peter Erdi
Wai-Keung Fung
Yang Gao
Erol Gelenbe
Nistor Grozavu
Ping Guo
Fei Han
Hanlin He
Shan He
Bin He
Jinglu Hu
He Huang
Kaizhu Hunag
Jihad Mohamad Jaam
Minghui Jiang
Hu Junhao
John Keane
Sungshin Kim
Irwin King
Sid Kulkarni
H.K. Kwan
James Kwok
Wk Lai
James Lam
Soo-Young Lee
Chi Sing Leung
Tieshan Li
Bin Li
Yangmin Li
Bo Li
Ruihai Li
Hai Li
Xiaodi Li
Lizhi Liao
Chee-Peng Lim
Ju Liu
Honghai Liu
Jing Liu
C.K. Loo
Luis Martínez López
Wenlian Lu
Yanhong Luo
Jinwen Ma
Mufti Mahmud
Jacek Mańdziuk
Muhammad Naufal Bin Mansor
Yan Meng
Xiaobing Nie
Sid-Ali Ouadfeul
Seiichi Ozawa
Shaoning Paul Pang
Anhhuy Phan
Uvais Qidwai
Ruiyang Qiu
Hendrik Richter
Mehdi Roopaei
Thomas A. Runkler
Miguel Angel Fernández Sanjuán
Ruhul Sarker
Naoyuki Sato
Qiankun Song
Jochen Steil

John Sum
Bing-Yu Sun
Norikazu Takahashi
Kay Chen Tan
Ying Tan
Maolin Tang
Jinshan Tang
Huajin Tang
H. Tang
Ke Tang
Peter Tino
Haifeng Tou
Dat Tran
Michel Verleysen
Dan Wang
Yong Wang
Ning Wang
Zhanshan Wang
Xin Wang
Dianhui Wang
Ailong Wu
Bryant Wysocki
Bjingji Xu
Yingjie Yang
Shengxiang Yang
Wenwu Yu
Wen Yu
Xiao-Jun Zeng
Xiaoqin Zeng
Junping Zhang
Zhong Zhang
Wei Zhang
Jie Zhang
Dongbin Zhao
Hongyong Zhao
Huaqing Zhen

Publications Committee Members

Gang Bao
Guici Chen
Huangqiong Chen
Ling Chen
Shengle Fang
Lizhu Feng
Xing He
Junhao Hu
Junjian Huang
Feng Jiang
Bin Li
Chaobei Li
Yanling Li
Mingzhao Li
Lei Liu
Xiaoyang Liu
Jiangtao Qi
Wenwen Shen
Cheng Wang
Xiaohong Wang
Zhikun Wang
Shiping Wen
Ailong Wu
Yongbo Xia
Jian Xiao
Li Xiao
Weina Yang
Zhanying Yang
Wei Yao
Tianfeng Ye
Hongyan Yin
Dai Yu
Lingfa Zeng
Wei Zhang
Yongchang Zhang
Yongqing Zhao
Song Zhu

Platinum Sponsor

Gold Sponsors

Table of Contents – Part V

Session 5: Simulation and Synthesis

Does Social Network always Promote Entrepreneurial Intentions? Part II: Empirical Analysis 1
Lu Xiao and Ming Fan

Rasterization System for Mobile Device 9
Xuzhi Wang, Yangyang Jia, Xiang Feng, Shuai Yu, and Hengyong Jiang

Study on Rasterization Algorithm for Graphics Acceleration System 17
Xuzhi Wang, Wei Xiong, Xiang Feng, Shuai Yu, and Hengyong Jiang

Simultaneous Learning of Several Bayesian and Mahalanobis Discriminant Functions by a Neural Network with Memory Nodes 25
Yoshifusa Ito, Hiroyuki Izumi, and Cidambi Srinivasan

Reinforcement of Keypoint Matching by Co-segmentation in Object Retrieval: Face Recognition Case Study 34
Andrzej Śluzek, Mariusz Paradowski, and Duanduan Yang

Effect of Luminance Gradients in Measurement of Differential Limen . . . 42
Hiroaki Kudo, Takuya Kume, and Noboru Ohnishi

Robust Controller for Flexible Specifications Using Difference Signals and Competitive Associative Nets 50
Weicheng Huang, Shuichi Kurogi, and Takeshi Nishida

Moments of Predictive Deviations as Ensemble Diversity Measures to Estimate the Performance of Time Series Prediction 59
Kohei Ono, Shuichi Kurogi, and Takeshi Nishida

Self-Organized Three Dimensional Feature Extraction of MRI and CT 67
Satoru Morita

OMP or BP? A Comparison Study of Image Fusion Based on Joint Sparse Representation 75
Yao Yao, Xin Xin, and Ping Guo

An Improved Approach to Super Resolution Based on PET Imaging 83
P.M. Yan, Meng Yang, Hui Huang, and J.F. Li

Pedestrian Analysis and Counting System with Videos 91
Zhi-Bin Wang, Hong-Wei Hao, Yan Li, Xu-Cheng Yin, and Shu Tian

Vehicle License Plate Localization and License Number Recognition Using Unit-Linking Pulse Coupled Neural Network 100
Ya Zhao and Xiaodong Gu

ROI-HOG and LBP Based Human Detection via Shape Part-Templates Matching 109
Shenghui Zhou, Qing Liu, Jianming Guo, and Yuanyuan Jiang

Matrix Pseudoinversion for Image Neural Processing 116
Rossella Cancelliere, Mario Gai, Thierry Artières, and Patrick Gallinari

Learn to Swing Up and Balance a Real Pole Based on Raw Visual Input Data 126
Jan Mattner, Sascha Lange, and Martin Riedmiller

GPU-Based Biclustering for Neural Information Processing 134
Alan W.Y. Lo, Benben Liu, and Ray C.C. Cheung

Color Image Segmentation Based on Regional Saliency 142
Haifeng Sima, Lixiong Liu, and Ping Guo

Mass Classification in Digitized Mammograms Using Texture Features and Artificial Neural Network 151
Man To Wong, Xiangjian He, Hung Nguyen, and Wei-Chang Yeh

Image Dehazing Algorithm Based on Atmosphere Scatters Approximation Model 159
Zhongyi Hu, Qing Liu, Shenghui Zhou, Mingjing Huang, and Fei Teng

Design of a Data-Oriented PID Controller for Nonlinear Systems 169
Shin Wakitani, Takuya Nawachi, and Toru Yamamoto

Improving the Robustness of Single-View-Based Ear Recognition When Rotated in Depth 177
Daishi Watabe, Takanari Minamidani, Hideyasu Sai, Katsuhiro Sakai, and Osamu Nakamura

Implementation of Face Selective Attention Model on an Embedded System 188
Bumhwi Kim, Hyung-Min Son, Yun-Jung Lee, and Minho Lee

From Image Annotation to Image Description 196
Ankush Gupta and Prashanth Mannem

Computer Aided Writing – A Framework Supporting Research Tasks, Topic Recommendations and Text Readability 205
André Klahold, Mareike Dornhöfer, and Madjid Fathi

Aspect-Oriented Design and Implementation of Secure Agent Communication System 213
Ozgur Koray Sahingoz and Emin Kugu

Texture Segmentation Based on Neuronal Activation Degree of Visual Model 221
Jin Ma, Fuqing Duan, and Ping Guo

One-Dimensional-Array Millimeter-Wave Imaging of Moving Targets for Security Purpose Based on Complex-Valued Self-Organizing Map (CSOM) 229
Shogo Onojima and Akira Hirose

Global Optimal Selection of Web Composite Services Based on UMDA 237
Shuping Cheng, Xiaoming Lu, and Xianzhong Zhou

Multistep Speaker Identification Using Gibbs-Distribution-Based Extended Bayesian Inference for Rejecting Unregistered Speaker 247
Yuta Mizobe, Shuichi Kurogi, Tomohiro Tsukazaki, and Takeshi Nishida

Chinese HowNet-Based Multi-factor Word Similarity Algorithm Integrated of Result Modification 256
Benbin Wu, Jing Yang, and Liang He

Composite Data Mapping for Spherical GUI Design: Clustering of Must-Watch and No-Need TV Programs 267
Masaya Maejima, Ryota Yokote, and Yasuo Matsuyama

Analysis of Intrusion Detection in Control System Communication Based on Outlier Detection with One-Class Classifiers 275
Takashi Onoda and Mai Kiuchi

Mobile Web Browsing Techniques 283
Zahiruddin Ahmad and Jer Lang Hong

Multiple Sections Extraction Using Visual Cue 292
Derren Wong and Jer Lang Hong

Iterative Appearance Learning with Online Multiple Instance Learning 300
Bo Guo, Juan Liu, and Junpeng Chen

Exploring Crude Oil Impacts to Oil Stocks through Graphical Computational Correlation Analysis 309
Anthony Lai, Lei Song, Yiming Peng, Peter Zhang, Qili Wang, and Shaoning Pang

Learning Visual Saliency Based on Object's Relative Relationship 318
Senlin Wang, Qi Zhao, Mingli Song, Jiajun Bu, Chun Chen, and Dacheng Tao

Template Matching Based Video Tracking System Using a Novel N-Step Search Algorithm and HOG Features 328
Tudor Barbu

Local Structure Divergence Index for Image Quality Assessment 337
Fei Gao, Dacheng Tao, Xuelong Li, Xinbo Gao, and Lihuo He

Feature and Signal Enhancement for Robust Speaker Identification of G.729 Decoded Speech 345
Kalpesh Raval, Ravi P. Ramachandran, Sachin S. Shetty, and Brett Y. Smolenski

Early-Vision-Inspired Method to Distinguish between Handwritten and Machine-Printed Character Images Using Hough Transform 353
Yuuya Konno and Akira Hirose

Unitary Anomaly Detection for Ubiquitous Safety in Machine Health Monitoring 361
Muhammad Amar, Iqbal Gondal, and Campbell Wilson

FusGP: Bayesian Co-learning of Gene Regulatory Networks and Protein Interaction Networks 369
Nizamul Morshed, Madhu Chetty, and Nguyen Xuan Vinh

An Image Representation Method Based on Retina Mechanism for the Promotion of SIFT and Segmentation 378
Hui Wei, Bo Lang, and Qing-Song Zuo

Attach Topic Sense to Social Tags 386
Junpeng Chen, Juan Liu, and Bo Guo

Emotion Recognition Using the Emotiv EPOC Device 394
Trung Duy Pham and Dat Tran

Botnet Detection Based on Non-negative Matrix Factorization and the MDL Principle 400
Sayaka Yamauchi, Masanori Kawakita, and Jun'ichi Takeuchi

Fusion of Multiple Texture Representations for Palmprint Recognition Using Neural Networks 410
Galal M. BinMakhashen and El-Sayed M. El-Alfy

Adaptive Neural Networks Control on Ship's Linear-Path Following 418
Wei Li, Jun Ning, Zhengjiang Liu, and Tieshan Li

Direct Robust Adaptive NN Tracking Control for Double Inverted Pendulums 428
Wenlian Yang, Ye Tao, and Tieshan Li

Clustering with Uncertainties: An Affinity Propagation-Based Approach 437
Wenye Li

Online Vigilance Analysis Combining Video and Electrooculography Features 447
Ruo-Fei Du, Ren-Jie Liu, Tian-Xiang Wu, and Bao-Liang Lu

Sensorless Speed Control of Hystersis Motor Based on Model Reference Adaptive System and Luenberger Observer Techniques 455
Abolfazl Halvaei Niasar, Hassan Moghbelli, and Mojtaba Yavari

Using Hybrid Neural Networks for Identifying the Brain Abnormalities from MRI Structural Images 465
Lavneet Singh, Girija Chetty, and Dharmendra Sharma

ANN for Multi-lingual Regional Web Communication 473
Kolla Bhanu Prakash, M.A. Dorai Rangaswamy, and Arun Raja Raman

Integration of Face Detection and User Identification with Visual Speech Recognition 479
Alaa Sagheer and Saleh Aly

Smart Phone Based Machine Condition Monitoring System 488
Iqbal Gondal, Muhammad Farrukh Yaqub, and Xueliang Hua

Spatio-temporal LTSA and Its Application to Motion Decomposition . . . 498
Hongyu Li, Junyu Niu, Lin Zhang, and Bo Hu

Cost-Effective Single-Camera Multi-Car Parking Monitoring and Vacancy Detection towards Real-World Parking Statistics and Real-Time Reporting 506
Katy Blumer, Hala R. Halaseh, Mian Umair Ahsan, Haiwei Dong, and Nikolaos Mavridis

Effect of Facial Feature Points Selection on 3D Face Shape Reconstruction Using Regularization 516
Ashraf Y.A. Maghari, Iman Yi Liao, and Bahari Belaton

Human Posture Recognition with the Stochastic Cognitive RAM Network 525
Weng Kin Lai, Imran M. Khan, and George G. Coghill

Entropy Based Image Semantic Cycle for Image Classification 533
Hongyu Li, Junyu Niu, and Lin Zhang

Fuzzy Particle Swarm Optimization for Intrusion Detection 541
Dalila Boughaci, Mohamed Djamel Eddine Kadi, and Meriem Kada

Dual-Feature Bayesian MAP Classification: Exploiting Temporal Information for Video-Based Face Recognition 549
John See, Chikkannan Eswaran, and Mohammad Faizal Ahmad Fauzi

Robot Dancing: Adapting Robot Dance to Human Preferences 557
Qinggang Meng, Ibrahim Tholley, and Paul W.H. Chung

Secure Distributed Storage for Bulk Data 566
Tadashi Minowa and Takeshi Takahashi

A Multi-modal Face and Signature Biometric Authentication System Using a Max-of-Scores Based Fusion 576
Youssef Elmir, Somaya Al-Maadeed, Abbes Amira, and Abdelâali Hassaïne

A Set of Geometrical Features for Writer Identification 584
Abdelâali Hassaïne, Somaya Al-Maadeed, and Ahmed Bouridane

Comparative Analysis of Clustering Algorithms Applied to the Classification of Bugs 592
Anderson Santana, Jackson Silva, Patrícia Muniz, Fabricio Araújo, and Renata Maria Cardoso R. de Souza

DNS-Based Defense against IP Spoofing Attacks 599
Eimatsu Moriyama, Takeshi Takahashi, and Daisuke Miyamoto

MOTIF-RE: Motif-Based Hypernym/Hyponym Relation Extraction from Wikipedia Links 610
Bifan Wei, Jun Liu, Jian Ma, Qinghua Zheng, Wei Zhang, and Boqin Feng

Behavior Analysis of Long-Term Cyber Attacks in the Darknet 620
Tao Ban, Lei Zhu, Junpei Shimamura, Shaoning Pang, Daisuke Inoue, and Koji Nakao

Clock Synchronization Protocol Using Resonate-and-Fire Type of Pulse-Coupled Oscillators for Wireless Sensor Networks 629
Kazuki Nakada and Keiji Miura

Neuro-Cryptanalysis of DES and Triple-DES 637
Mohammed M. Alani

An Expanded HP Memristor Model for Memristive Neural Network 647
Yu Dai and Chuandong Li

Aimbot Detection in Online FPS Games Using a Heuristic Method Based on Distribution Comparison Matrix 654
Su-Yang Yu, Nils Hammerla, Jeff Yan, and Peter Andras

An Improved NN Training Scheme Using Two-Stage LDA Features for Face Recognition 662
Behzad Bozorgtabar and Roland Goecke

Medical Image Thresholding Using Online Trained Neural Networks 672
Ahmed A. Othman

Subspace Echo State Network for Multivariate Time Series Prediction 681
Min Han and Meiling Xu

A Framework of a Route Optimization Scheme for Nested Mobile Network 689
Shayma Senan, AishaHassan A. Hashim, Akram M. Zeki, Rashid A. Saeed, Shihab A. Hameed, and Jamal I. Daoud

Pathway-Based Multi-class Classification of Lung Cancer 697
Worrawat Engchuan and Jonathan H. Chan

Spontaneous Emergence of the Intelligence in an Artificial World..... 703
Istvan Elek, Janos Roden, and Thai Binh Nguyen

Adaptive Backstepping Neural Control for Switched Nonlinear Stochastic System with Time-Delay Based on Extreme Learning Machine 713
Yang Xiao, Fei Long, and Zhigang Zeng

Clustering Based on Rank Distance with Applications on DNA 722
Liviu Petrisor Dinu and Radu-Tudor Ionescu

Petrophysical Parameters Estimation from Well-Logs Data Using Multilayer Perceptron and Radial Basis Function Neural Networks 730
Leila Aliouane, Sid-Ali Ouadfeul, Noureddine Djarfour, and Amar Boudella

Lithofacies Classification Using the Multilayer Perceptron and the Self-organizing Neural Networks 737
Sid-Ali Ouadfeul and Leila Aliouane

Author Index 745