

**2015 IEEE International Conference
on Computer and Information
Technology; Ubiquitous Computing
and Communications; Dependable,
Autonomic and Secure Computing;
Pervasive Intelligence and Computing
(CIT/IUCC/DASC/PICOM 2015)**

**Liverpool, United Kingdom
26-28 October 2015**

Pages 1606-2398



IEEE Catalog Number: CFP15355-POD
ISBN: 978-1-5090-0155-2

**Copyright © 2015 by the Institute of Electrical and Electronic 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: CFP15355-POD
ISBN (Print-On-Demand): 978-1-5090-0155-2

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

PROCEEDINGS

The 15th IEEE International Conference on Computer and Information Technology (CIT 2015)

The 14th IEEE International Conference on Ubiquitous Computing and Communications (IUCC 2015)

The 13th IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC 2015)

The 13th IEEE International Conference on Pervasive Intelligence and Computing (PICoM 2015)

— CIT/IUCC/DASC/PICoM 2015 —

CIT/IUCC/DASC/PICoM 2015

The 15th IEEE International Conference on Computer and Information Technology (CIT-2015)

The 14th IEEE International Conference on Ubiquitous Computing and Communications (IUCC-2015)

The 13th IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC-2015)

The 13th IEEE International Conference on Pervasive Intelligence and Computing (PICoM-2015)

26-28 October 2015 • Liverpool, United Kingdom

Edited by Yulei Wu, Geyong Min, Nektarios Georgalas, Jia Hu, Luigi Atzori, Xiaolong Jin, Stephen Jarvis, Lei Liu, and Ramón Agüero Calvo



PROCEEDINGS

The 15th IEEE International Conference on Computer and Information Technology (CIT 2015)

The 14th IEEE International Conference on Ubiquitous Computing and Communications (IUCC 2015)

The 13th IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC 2015)

The 13th IEEE International Conference on Pervasive Intelligence and Computing (PICom 2015)

— CIT/IUCC/DASC/PICom 2015 —

**26–28 October 2015
Liverpool, United Kingdom**

Edited by

Yulei Wu
Geyong Min
Nektarios Georgalas
Jia Hu
Luigi Atzori
Xiaolong Jin
Stephen Jarvis
Lei Liu
Ramón Agüero Calvo



**Los Alamitos, California
Washington • Tokyo**



**2015 IEEE International
Conference on Computer
and Information Technology;
Ubiquitous Computing
and Communications; Dependable,
Autonomic and Secure
Computing; Pervasive Intelligence
and Computing**

CIT-IUCC-DASC-PICOM 2015

Table of Contents

Message from the CIT 2015 General Chairs.....	xxxiv
Message from the CIT 2015 Program Chairs.....	xxv
Message from the CIT 2015 Steering Chairs.....	xxvi
Message from the CIT 2015 Workshop/Symposium Chairs.....	xxvii
Message from the IUCC 2015 General Chairs.....	xxviii
Message from the IUCC 2015 Program Chairs.....	xxix
Message from the IUCC 2015 Steering Chairs.....	xl
Message from the IUCC 2015 Workshop/Symposium Chairs.....	xli
Message from the DASC 2015 General Chairs.....	xlii
Message from the DASC 2015 Program Chairs.....	xliii
Message from the DASC 2015 Steering Chairs.....	xliv
Message from the DASC 2015 Workshop/Symposium Chairs.....	xlv
Message from the PICom 2015 General Chairs.....	xlii
Message from the PICom 2015 Program Chairs.....	xlvi
Message from the PICom 2015 Steering Chairs.....	xlvii
Message from the PICom 2015 Workshop/Symposium Chairs	xlviii
Message from the WNM 2015 Workshop Chairs	xlvi
Message from the SOWN 2015 Workshop Chairs	li
Message from the IntelNet 2015 Workshop Chairs	lii
Message from the I-SOCA 2015 Workshop Chairs	liii
Message from the SMMA 2015 Workshop Chairs.....	liv

Message from the WCTU 2015 Workshop Chairs.....	iv
Message from the MSNCom 2015 Workshop Chairs.....	vi
Message from the WISH 2015 Workshop Chairs.....	vii
Message from the ITA 2015 Symposium Chairs.....	viii
Message from the MultiCom 2015 Workshop Chairs.....	lvix
Message from the IWSCA 2015 Workshop Chairs.....	lx
Message from the VEAI 2015 Workshop Chairs.....	lxi
Message from the ICTA 2015 Workshop Chairs.....	lxii
Message from the MT4H 2015 Workshop Chairs.....	lxiii
Message from the HWNQoE 2015 Workshop Chairs.....	lxiv
Message from the BigData 2015 Workshop Chairs.....	lxv
Message from the IoT-Smart 2015 Workshop Chairs.....	lxvi
Message from the AUCN 2015 Symposium Chair.....	lxvii
Message from the PASS4CI 2015 Workshop Chairs.....	lxviii
Message from the SocialSec 2015 Workshop Chairs.....	lxix
Message from the CEWE 2015 Workshop Chairs.....	lxx
Message from the IBDS 2015 Workshop Chairs	lxxi
Message from the ASCC 2015 Symposium Chairs.....	lxxii
Message from the IoTBDH 2015 Workshop Chairs.....	lxxiii
Message from the PCIS 2015 Symposium Chairs.....	lxxiv
CIT 2015 Organizing and Program Committees.....	lxxv
IUCC 2015 Organizing and Program Committees.....	lxxxiii
DASC 2015 Organizing and Program Committees.....	lxxxvi
PICom 2015 Organizing and Program Committees.....	lxxxix
WNM 2015 Organizing and Program Committees.....	xcii
SOWN 2015 Organizing and Program Committees.....	xciii
IntelNet 2015 Organizing and Program Committees.....	xciv
I-SOCA 2015 Organizing and Program Committees.....	xcv
SMMA 2015 Organizing and Program Committees.....	xcvi
WCTU 2015 Organizing and Program Committees.....	xcvii
MSNCom 2015 Organizing and Program Committees.....	xcviii
WISH 2015 Organizing and Program Committees	xcix
MultiCom 2015 Organizing and Program Committees.....	c
IWSCA 2015 Organizing and Program Committees.....	ci
VEAI 2015 Organizing and Program Committees.....	ci
ICTA 2015 Organizing and Program Committees	cii
MT4H 2015 Organizing and Program Committees.....	civ
HWNQoE 2015 Organizing and Program Committees	cv
BigData 2015 Organizing and Program Committees.....	cvi
IoT-Smart 2015 Organizing and Program Committees.....	cvi

PASS4CI 2015 Organizing and Program Committees.....	.cviii
SocialSec 2015 Organizing and Program Committees.....	.cix
CEWE 2015 Organizing and Program Committees.....	.cx
IBDS 2015 Organizing and Program Committees.....	.cxi
IoTBDH 2015 Organizing and Program Committees.....	.cxii
Keynote Speech 1: In-Memory Computing: New Architecture for Big Data Processing, by Hai Jin.....	.cxiii
Keynote Speech 2: Energy Efficiency and Quality of Service in Computing and Communication Technologies, by Erol Gelenbe.....	.cxiv
Keynote Speech 3: From Distributed Optimization Theory to In-Network Data Processing in Wireless Ad-Hoc and Sensor Networks, by Kin K. Leung.....	.cxv
Keynote Speech 4: Wear-I: A New Paradigm in Wearable Computing, by Jianhua Ma.....	.cxvi
Keynote Speech 5: Scalable Data Analytics for Big Data Applications on Cloud, by Jinjun Chen.....	.cxvii
Keynote Speech 6: Advances in Wireless Social Networking, by Lajos Hanzo.....	.cxviii
Keynote Speech 7: Smart City Ecosystems of Applications, IoT, Data Hubs, Cloud and Networks (NFV) and End-to-End SLA Considerations, by Nektarios Georgalas.....	.cxix
Keynote Speech 8: Towards Collaborative Computing with Urban Big Data, by Minyi Guocxx
Keynote Speech 9: Large-Scale RFID Application and Technology, by Keqiu Licxxi

Session CIT-1: Wireless Communication and 5G Technologies (I)

Automatic Modulation Classification in Cognitive Radio Using Multiple Antennas and Maximum-Likelihood Techniques	1
<i>Ahmed O. Abdul Salam, Ray E. Sheriff, Saleh R. Al-Araji, Kahtan Mezher, and Qassim Nasir</i>	
A Two-Tier Evolutionary Game Theoretic Approach to Dynamic Spectrum Sharing through Licensed Shared Access	6
<i>Ahsan Saadat, Gengfa Fang, and Wei Ni</i>	
Adaptive Rate Control in Smart Grid Heterogeneous Communications Networks	12
<i>Weifeng Zhong, Rong Yu, Yan Zhang, Yue Gao, and Stein Gjessing</i>	
Understanding Access Stability and Mobility Patterns of Mobile Internet Users	18
<i>Yuan Li, Hao Jiang, Shuwen Yi, Chen Zhou, Lihua Wu, and Ming Wu</i>	

Application Sequence Prediction for Energy Consumption Reduction in Mobile Systems	23
<i>Ismat Chaib Draa, Jamel Tayeb, Smail Niar, and Emmanuelle Grislin</i>	

Reduced Complexity MIMO Receiver with Real-Valued Beamforming	31
<i>Craig Miller, Wei Liu, and Richard J. Langley</i>	

Session CIT-2: Wireless Communication and 5G Technologies (II)

Exploiting the DASH Framework to Promote a Dynamic Transport Selection for Video Streaming over LTE Networks	37
<i>Luis Diez, Ramón Agüero, Joel Penhoat, Emile Stéphan, and Fabien Heliot</i>	
Channel-Aware Scheduling in FFR-Aided OFDMA-Based Heterogeneous Cellular Networks	44
<i>Jan García-Morales, Guillermo Femenias, and Felip Riera-Palou</i>	
Evidence Theory Based Self-Interference Suppression for Two-Way Full-Duplex MIMO Relays	52
<i>Yi Yang, Yanhua Sun, Enchang Sun, and Yanhua Zhang</i>	
SDR-Based ADS-B with Dual-Frequency for UAS: A Universal Design	59
<i>Yueying Zhang, Keju Wang, and Hang Long</i>	
Acoustic Radar Weak Target Detection Method Based on Mellin Transform	64
<i>Dinghe Wang, Qinglong Bao, and Zengping Chen</i>	
Hidden Markov Model for Improved Ultrasound-Based Presence Detection	68
<i>Paola Jaramillo and Jean-Paul Linnartz</i>	

Session CIT-3: Wireless Sensor and Ad Hoc Networks

Minimization and Placement of Sensors in Structurally Observable Networks	75
<i>João Paulo Souza Medeiros, Paulo Sergio Motta Pires, João Batista Borges Neto, and Antonio Alfredo Ferreira Loureiro</i>	
Equalizing Energy Distribution in Sensor Nodes through Optimization of RPL	83
<i>Juuso Nurmi, Ethiopia Nigussie, and Christian Poellabauer</i>	
Collision-Free Routing Protocol in Multi-hop Wireless Sensor Networks	92
<i>Hicham Lakhlef, Julien Bourgeois, Saad Harous, and Jean Frédéric Myoupo</i>	
Measuring Distances with RSSI from Vehicular Short-Range Communications	100
<i>Roberto S. Yokoyama, Bruno Y. L. Kimura, Leandro A. Villas, and Edson D.S. Moreira</i>	
THESEUS: A Routing System for Shared Sensor Networks	108
<i>Mohammadreza Iman, Flavia C. Delicato, Claudio M. de Farias, Luci Pirmez, Igor L. dos Santos, and Paulo F. Pires</i>	
Spanning Data Across Heterogeneous MANETs through Proactive Strip Interoperability	116
<i>Marco Antonio To, Jose Alvarez, Marcos Cano, and Stephane Maag</i>	

Session CIT-4: Management of Data and Database Systems

Analytical Performance Evaluation of Frame Synchronization for Data with Known, Unequal Distribution over Binary Symmetric Channel	125
<i>Boladale M. Isawhe and Maria G. Martini</i>	
Enhancing Aggregation over Uncertain Databases	132
<i>Nermin Abdelhakim Othman, Ahmed Sharaf Eldin, and Doaa Saad Elzanfaly</i>	
FPGA Based Real Time 'Secure' Body Temperature Monitoring Suitable for WBSN	140
<i>Muzaffar Rao, Thomas Newe, Ian Grout, Elfed Lewis, and Avijit Mathur</i>	
SSIE: An Automatic Data Extractor for Sports Management in Athletics Modality	144
<i>Felipe Simões, Fabio Matsunaga, Armando Toda, Jacques Brancher, Abdallah Junior, and Rosangela Busto</i>	
Semantic Mapping Relational to a Directed Property Hypergraph Model	152
<i>Dewi Wisnu Wardani and Josef Küng</i>	

Session CIT-5: Information Security

Identifying and Classifying Suspicious Network Behavior Using Passive DNS Analysis	160
<i>Kaio R.S. Barbosa, Eduardo Souto, Eduardo Feitosa, and Khalil El-Khatib</i>	
An Approach to IdM with Privacy in the Cloud	168
<i>Jorge Werner, Carla Merkle Westphall, Rafael Weingärtner, Guilherme Arthur Geronimo, and Carlos Becker Westphall</i>	
Dynamic Searchable Encryption with Multi-user Private Search for Cloud Computing	176
<i>Wenjun Luo, Yaqiong Chen, and Yousheng Zhou</i>	
Scalable Multi-group Key Management for Advanced Metering Infrastructure	183
<i>Mourad Benmalek, Yacine Challal, and Abdelmadjid Bouabdallahz</i>	
Personalized Privacy Aware Framework for Moving Objects in Participatory Sensing	191
<i>Dorothy Kalui, Xi Guo, Dezheng Zhang, Yonghong Xie, and Zhiyong Yang</i>	

Session CIT-6: Pattern Recognition, Data Mining, and Artificial Intelligence (I)

SMART: An Application Framework for Real Time Big Data Analysis on Heterogeneous Cloud Environments	199
<i>Julio C.S. dos Anjos, Marcos D. Assunção, Jean Bez, Claudio Geyer, Edison Pignaton de Freitas, Alexandre Carissimi, João Paulo C. L. Costa, Gilles Fedak, Felix Freitag, Volker Markl, Paul Fergus, and Rubem Pereira</i>	
Automatic Classification and Taxonomy Generation for Semi-structured Data	207
<i>Bernardo Pereira Nunes, Giseli Rabello Lopes, and Marco Antonio Casanova</i>	
Artificial Intelligence for Detecting Preterm Uterine Activity in Gynecology and Obstetric Care	215
<i>Ibrahim Olatunji Idowu, Paul Fergus, Abir Hussain, Chelsea Dobbins, Mohammed Khalaf, Raul V. Casana Eslava, and Robert Keight</i>	

A Novel Continuous Learning and Collaborative Decision Making Mechanism
for Real-Time Cooperation of Humanoid Service Robots221
Ming Jiang and Li Zhang

An Optimization to CHARM Algorithm for Mining Frequent Closed Itemsets226
Xin Ye, Feng Wei, Fan Jiang, and Shaoyin Cheng

An Associative Classifier Adopting Fuzzy Weighted Rules Based on Information Gain236
Yi Chai, Guixia Kang, Ningbo Zhang, Yanyan Guo, and Jingning Wang

Combining Fuzzy Rough Set with Salient Features for HRM Classification244
Asia L. Jabar and Tarik A. Rashid

Session CIT-7: Pattern Recognition, Data Mining, and Artificial Intelligence (II)

Diffusion Least Mean Square Algorithms with Zero-Attracting Adaptive Combiners252
Fuxi Wen and Wei Liu

Word-Sense Disambiguation of Korean Predicates Using Sejong Electronic Dictionary
and Unsupervised Learning257
Sangwook Kang, Yeontaek Oh, Minho Kim, and Hyuk-chul Kwon

Marketing or Newsletter Sender Reputation System Using Association Analysis
Concept262
Akkarakch Kawbunjun, Ubon Thongsatapornwatana, and Woraphon Lilakiatsakun

Feature Selection in Brain Computer Interface Using Genetics Method270
Aswinseshadri.K and V. Thulasi Bai

Online Pedestrian Tracking Using Ensemble Color Feature276
Bo Zhang, Yi Xu, and Xiaokang Yang

A Data-Driven Hybrid Optimization Model for Short-Term Residential Load Forecasting283
Xiu Cao, Shuanshuan Dong, Zhenhao Wu, and Yinan Jing

Session CIT-8: Pattern Recognition, Data Mining, and Artificial Intelligence (III)

A Neural Network Clamping Force Model for Bolt Tightening of Wind Turbine Hubs288
*Emanuele Lindo Secco, Atulya Nagar, Christian Deters, Helge Wurdemann,
Hak-Keung Lam, and Kaspar Althoefer*

WARank: Weighted Asymmetric Ranking for Approximate Nearest Neighbor Search297
Yuan Cao, Heng Qi, Keqiu Li, Yingwei Jin, and Zhiyang Li

Fault Detection and Classification Based on PCA and N-LMC305
Xiaoqin Zhang and Feng Liu

An Approach of Vector Space Model to Link Concrete Concepts with Wiki Entities313
Lucas Borges Monteiro, Li Weigang, and Ahmed Abdelfattah Saleh

Multi-model or Single Model? A Study of Movie Box-Office Revenue Prediction321
Guijia He and Soowon Lee

An Experimental Evaluation of Aggregation Algorithms for Processing Top-K Queries326
Liang Zhu, Qin Ma, Weiyi Meng, Mingqian Yang, and Fang Yuan

Model-Based Self-Tuning PI Control of Bolt-Nut Tightening for Wind Turbine Bearing Assembly	334
<i>Christian Deters, Hak-Keung Lam, Mark Barrett-Baxendale, and Emanuele Lindo Secco</i>	

Session CIT-9: Internet of Things

Efficient CP-ABE Attribute/Key Management for IoT Applications	343
<i>Lyes Touati and Yacine Challal</i>	
A Proactive Multi-type Context-Aware Recommender System in the Environment of Internet of Things	351
<i>Yassmeen Salman, Abdallatif Abu-Issa, Iyad Tumar, and Yousef Hassouneh</i>	
Fog Computing in Healthcare Internet of Things: A Case Study on ECG Feature Extraction	356
<i>Tuan Nguyen Gia, Mingzhe Jiang, Amir-Mohammad Rahmani, Tomi Westerlund, Pasi Liljeberg, and Hannu Tenhunen</i>	
Rail Internet of Things: An Architectural Platform and Assured Requirements Model	364
<i>Mahmoud Hashem Eiza, Martin Randles, Princy Johnson, Nathan Shone, Jennifer Pang, and Amhmed Bhih</i>	

Session CIT-10: Information Technology and Applications (I)

Towards a UML Profile for Privacy-Aware Applications	371
<i>Tania Basso, Leonardo Montecchi, Regina Moraes, Mario Jino, and Andrea Bondavalli</i>	
Towards the Use of Unmanned Aerial Vehicles for Automatic Power Meter Readings	379
<i>Jose Rodrigues Torres Neto, Roberto Sadao Yokoyama, Azzedine Boukerche, Daniel Ludovico Guidoni, Rodolfo Ipólio Meneguette, and Leandro Aparecido Villas</i>	
Semantic Web Services Discovery Adopting SERIN	387
<i>José Renato Villela Dantas, Hermano Albuquerque Lira, Bruno de Azevedo Muniz, Tadeu Matos Nunes, and Pedro Porfirio Muniz Farias</i>	
A Taxonomy-Based Evaluation of Personalized E-Advertisement	395
<i>Dana A. Al Qudah, Alexandra I. Cristea, Suncica Hadzidetic Bazdarevic, Samar Al-Saqqa, and Rizik M. H. Al-Sayyad</i>	
Linux Enriched Design in Third Generation Wireless Open Access Research Platform	403
<i>Muhammad Saad Saud, Anton Paatelma, Markku Jokinen, and Tuomo Hänninen</i>	
An Attributed Predicate RDF	410
<i>Dewi Wisnu Wardani and Josef Küng</i>	

Session CIT-11: Information Technology and Applications (II)

A Method of Handling Control Dependence in Dynamic Taint Analysis	417
<i>Xuefei Wang, Hengtai Ma, and Ke Yang</i>	
Dynamically Evolving Annotation-Based Variability for Runtime Adaptation	423
<i>Qinghua Zeng, Yinliang Zhao, Tan Tan, and Bo Han</i>	

An Extension of UML Activity Diagram to Model the Behaviour of Context-Aware Systems	431
<i>Ahmed Al-alshuhai and François Siewe</i>	
A Dynamic Power-Aware Scheduling of Mixed-Criticality Real-Time Systems	438
<i>Ijaz Ali, Jun-ho Seo, and Kyong Hoon Kim</i>	
Improving Network Efficiency with Simplemux	446
<i>Jose Saldana, Ignacio Forcén, Julián Fernández-Navajas, and José Ruiz-Mas</i>	
The Impact of Heterogeneous Spreading Abilities of Network Ties on Information Spreading	454
<i>Chengeng Ou, Xiaolong Jin, Yuanzhuo Wang, Wei Chen, and Xueqi Cheng</i>	
Technology and Information Trust for Supporting Risky Decisions Based on Social-Media Content	461
<i>Jason R.C. Nurse, Michael Goldsmith, Sadie Creese, and Koen Lamberts</i>	

Session CIT-12: Multimedia Application and QoS/QoE Provision and Estimation (I)

Network Quality Adaptive Video Transmission	469
<i>Fakher Oueslati and Jean-Charles Grégoire</i>	
DICE: A Distributed Protocol for Camera-Aided Video Surveillance	477
<i>Hanna Kavalionak, Claudio Gennaro, Giuseppe Amato, and Carlo Meghini</i>	
Recommendation Systems Based on Online User's Action	485
<i>Aymen Elkhelifi, Firas Ben Kharrat, and Rim Faiz</i>	
Videoconferencing over OpenFlow Networks: An Optimization Framework for QoS Routing	491
<i>Djamel-Eddine Henni, Abdelghani Ghomari, and Yassine Hadjadj-Aoul</i>	
Scorpion: A Solution Using Cooperative Rerouting to Prevent Congestion and Improve Traffic Condition	497
<i>Allan Mariano de Souza, Roberto Sadao Yokoyama, Leonardo Castro Botega, Rodolfo Ipolito Meneguette, and Leandro Aparecido Villas</i>	
ETBAC-Based Model in Media Oriented System Transport Network	504
<i>Shuaibing Lu, Zhiyi Fang, Guannan Qu, and Song Gao</i>	

Session CIT-13: Multimedia Application and QoS/QoE Provision and Estimation (II)

CHOKeD: Fair Active Queue Management	512
<i>Sanaullah Manzoor, Ghulam Abbas, and Masroor Hussain</i>	
On-the-Fly Process Resource Quarantine for System Stabilization	517
<i>Gaku Nakagawa, Hirotaka Kawata, and Shuichi Oikawa</i>	
A Novel QoS Routing Method for LEO Rosette Constellation Network	525
<i>Yuanyuan Zhang, Laitao Zhu, Jing Wu, Hao Jiang, Jianguo Zhou, TianYi Cao, Zijing Cheng, and Zhaojun Wang</i>	

Remote Temporal Couplers for Multiple Content Synchronization	532
<i>Ricardo Mendes Costa Segundo and Celso Alberto Saibel Santos</i>	
Towards New Caching Strategy for Information-centric Networking Based on Data	
Proximity Control	540
<i>Amine Abidi and Sonia Mettali Gammar</i>	

Session CIT-14: Computer Graphics/Image Processing

A Robust Face Recognition System Based on Curvelet and Fractal Dimension	
Transforms	548
<i>Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, and Shumoos Al-Fahdawi</i>	
Accelerating Brain Simulations on Graphical Processing Units	556
<i>Engin Kayraklıoglu, Tarek El-Ghazawi, and Zeki Bozkus</i>	
Graph Grammar for the Research Information Collection Method According	
to Research Activities	561
<i>Youzou Miyadera, Chiaki Murakami, Koichi Anada, Yasuhiko Morimoto, Shoichi Nakamura, Hiroaki Kaminaga, and Takeo Yaku</i>	
BE-SIFT: A More Brief and Efficient SIFT Image Matching Algorithm for Computer	
Vision	568
<i>Jian Zhao, Hengzhu Liu, Yiliu Feng, Shandong Yuan, and Wanzeng Cai</i>	

Session CIT-15: Information Technology for Biomedicine and Smart Health

Robust Approach for Medical Data Classification and Deploying Self-Care Management	
System for Sickle Cell Disease	575
<i>Mohammed Khalaf, Abir Jaafar Hussain, Dhiya Al-Jumeily, Russell Keenan, Paul Fergus, and Ibrahim Olatunji Idowu</i>	
Session Resumption-Based End-to-End Security for Healthcare Internet-of-Things	581
<i>Sanaz Rahimi Moosavi, Tuan Nguyen Gia, Ethiopia Nigussie, Amir-Mohammad Rahmani, Seppo Virtanen, Hannu Tenhunen, and Jouni Isoaho</i>	
Context-Aware Clinical Knowledge Sharing in Cross-Boundary E-Health: A Conceptual	
Model	589
<i>Obinna Anya, Hissam Tawfik, and Dhiya Al-Jumeily</i>	
GARUDA: A New Geographical Accident Aware Solution to Reduce Urban Congestion	596
<i>Allan Mariano de Souza, Roberto Sadao Yokoyama, Nelson Luis Saldanha da Fonseca, Rodolfo Ipolito Meneguette, and Leandro Aparecido Villas</i>	

Session CIT-16: Utility Computing/Clouding Computing/Ubiquitous Computing

Stochastic Bounding Models for Performance Analysis of Clouds	603
<i>Farah Aït-Salaht and Hind Castel-Taleb</i>	
Hybrid and Extensible Architecture for Cloud Infrastructure Deployment	611
<i>Enrique Chirivella-Perez, Juan Gutiérrez-Aguado, Jose M. Claver, and Jose M. Alcaraz Calero</i>	

A New Lightweight Homomorphic Encryption Scheme for Mobile Cloud Computing	618
<i>Mohd Rizuan Baharon, Qi Shi, and David Llewellyn-Jones</i>	
Optimal Real Time Pricing Based on Income Maximization for Smart Grid	626
<i>Sahar Ahmadzadeh and Kun Yang</i>	
Modelling the Data Aggregator Positioning Problem in Smart Grids	632
<i>Guilherme Rolim, Diego Passos, Igor Moraes, and Célio Albuquerque</i>	
A Zero-Penalty Container-Based Execution Infrastructure for Hadoop Framework	640
<i>Hang Su, Jiafeng Zhu, Masood Mortazavi, Guangyu Shi, and Dakai Zhu</i>	
Middleware Reconfiguration Relying on Formal Methods	648
<i>Nelson Rosa</i>	

Session SOWN-1: Security & Optimization for Wireless Networks

Core-Selecting Auction Based Spectrum Allocation Scheme in Cognitive Femtocell Networks	656
<i>Liang Bu-lin and Huang Chuan</i>	
An AGV Mechanism Based Secure Routing Protocol for Internet of Things	662
<i>Youhua Xia, Hui Lin, and Li Xu</i>	

Session SMMA-1: Social Media Mining and Analysis

Usage and Consequences of Privacy Settings in Microblogs	667
<i>Elena Daehnhardt, Nick K. Taylor, and Yanguo Jing</i>	
Association Rules Mining Based on Clustering Analysis and Soft Sets	675
<i>Bo Li, Zheng Pei, and Keyun Qin</i>	
Big Data Analytics in MOOCs	681
<i>Yanyan Zheng and Beibei Yin</i>	
A Multi-criteria Review-Based Hotel Recommendation System	687
<i>Yashvardhan Sharma, Jigar Bhatt, and Rachit Magon</i>	
The Belief Degrees of Fuzzy Linguistic Values Based on a Fuzzy Formal Context	692
<i>Li Yan</i>	

Session WCTU-1: Character and Text Understanding

Recognition of Fuzzy Characters on Oracle-Bone Inscriptions	698
<i>Gao Feng, Xiong Jing, and Liu Yong-ge</i>	
LSA-Based Chinese-Slavic Mongolian NER Disambiguation	703
<i>Jiang Yupeng, Hou Hongxu, and Yang Ping</i>	
Ontology Description of Chinese Character Semantics	709
<i>Jing Xiong, Xin Liu, and Qingsheng Li</i>	
Delaunay and Graph Modal-Based Bagua Layout Text Line Extraction for Shui Script	714
<i>Zhang Guofeng and Zhang Weiqin</i>	
A Novel Dynamic Description and Generation Method for Chinese Character	719
<i>Qingsheng Li and Quan Liu</i>	

Session WNM-1: Wireless Network and Multimedia

Power-Aware QoS Provisioning in OFDMA Small Cell Networks	725
<i>Antonios Alexiou, Anastasios N. Bikos, and Christos Bouras</i>	
Power Management and Rate Control Mechanism for Wi-Fi Infrastructure Networks	731
<i>Christos Bouras, Vaggelis Kapoulas, Kostas Stamos, Nikos Stathopoulos, and Nikos Tavoularis</i>	
Empirical Performance Models for V2V Communications	737
<i>Miguel Sepulcre, Javier Gozalvez, Baldomero Coll-Perales, M. Carmen Lucas-Estañ, and Jose Ramon Gisbert</i>	
SoCar: A Social Car2Car Framework to Refine Routes Information Based on Road Events and GPS	743
<i>Walter Balzano, Maria Rosaria Del Sorbo, and Domenico Del Prete</i>	
Power Optimization Technique in Interference-Limited Femtocells in LTE and LTE Advanced Based Femtocell Networks	749
<i>Shahrukh Khan and Sahibzada Ali Mahmud</i>	
Analyzing Linear Communication Networks Using the Ribosome Flow Model	755
<i>Yoram Zarai, Oz Mendel, and Michael Margaliot</i>	
A Novel Secure SDN/LTE Based Architecture for Smart Grid Security	762
<i>Asad Irfan, Nayab Taj, and Sahibzada Ali Mahmud</i>	
OpenGUFI: An Extensible Graphical User Flow Interface for an SDN-Enabled Wireless Testbed	770
<i>Joerg Schultz, Roman Szczepanski, Kay Haensge, Michael Maruschke, Nico Bayer, and Hans Einsiedler</i>	
HTTP Data Offloading Using Multipath TCP Proxy	777
<i>Christos Pollalis, Paris Charalampou, and Efstathios Sykas</i>	

Session I-SOCA-1: Internet of Things: Smart Objects, Cloud, and Applications

Extending Event Elements of Business Process Model for Internet of Things	783
<i>Hsiao-Hsien Chiu and Ming-Shi Wang</i>	
Mapping Security Requirements to Identify Critical Security Areas of Focus in PaaS Cloud Models	789
<i>Alex Akinbi and Ella Pereira</i>	
Lightweight Forensics Application: Lightweight Approach to Securing Mobile Devices	795
<i>Helen Angela Brumfitt, Bob Askwith, and Bo Zhou</i>	
A Novel Network Topology in Underwater Visible Light Sensor Networks	801
<i>Shih-Hao Chang, Rubem Pereira, and Kuei-Ping Shih</i>	
Virtual Resource Allocation and Composition for Data Stream Processing of Online Auditing in Cloud Computing	806
<i>Lei Wang and Tuo Li</i>	

Session IntelNet-1: Intelligent Communication and Social Networks

A Study of a Virtual Network Embedding Algorithm	814
<i>Zhen-hua Chen, Xiang-wei Zheng, and Dian-jie Lu</i>	
A Crisis Mitigation Policy for SLA Profit Maximization in Multitenant Database	819
<i>Zhenkun Wang, Yongqing Zheng, Lanju Kong, and Zhiyong Chen</i>	
REODM: Identify Local Outliers in Big Data	825
<i>Yongchang Gao, Haowen Guan, and Bin Gong</i>	
Global Index Oriented Non-Shard Key for Multi-tenant Database	831
<i>Xiao Zongshui, Lanju Kong, Qingzhong Li, and Pang Cheng</i>	
An Intention-Topic Model Based on Verbs Clustering and Short Texts Topic Mining	837
<i>Tingting Lu, Shifeng Hou, Zhenxiang Chen, Lizhen Cui, and Lei Zhang</i>	
Performance and Resource Prediction at High Utilization for N-Tier Service Systems in Cloud an Experiment Driven Approach	843
<i>Wenbin Zhang, Yuliang Shi, Lei Liu, Lizhen Cui, and Yongqing Zheng</i>	

Session ITA-1: Information Technology and Applications (I)

Ontology-Based Requirements Generation for Credibility Validation of Safety-Critical System	849
<i>Rui Li, Shilong Ma, and Wentao Yao</i>	
Method to Develop Coded Excitation for Velocimetry in Downhole Drilling	855
<i>Weijia Lu, Ran Niu, Longtao Yuan, Xin Qu, Heng Wu, and Jing Ye</i>	
Using Relational Algebra on the Specification of Real World ETL Processes	861
<i>Vasco Santos and Orlando Belo</i>	
An Empirical Evaluation of Software Quality Assurance Practices and Challenges in a Developing Country	867
<i>Olaperi Yeside Sowunmi and Sanjay Misra</i>	

Session ITA-2: Information Technology and Applications (II)

Evaluating Open Source Software Quality Models Against ISO 25010	872
<i>Adewole Adewumi, Sanjay Misra, and Nicholas Omoregbe</i>	
IVOrpheus - A Proposal for Interaction by Voice Commands in Three-Dimensional Environments of Information Visualization	878
<i>Lennon Furtado, Brunelli Miranda, Nelson Neto, and Bianchi Meiguins</i>	
Evaluating User Influence Based on the Properties of User in Social Networks	884
<i>Yong Yao, Bian Li, and Lei Peng</i>	
Dealing with Uncertainties in Software Project Management	889
<i>Marcelo Marinho, Suzana Sampaio, Alexandre Luna, Telma Lima, and Hermano Moura</i>	

Towards a Distinction between Application State Resources and Data Resources in ROA	895
--	-----

*Tadeu Matos Nunes, Pedro Porfirio Muniz Farias, José Renato Villela Dantas,
Hermano Albuquerque Lira, Bruno de Azevedo Muniz, and Luiz Henrique S. Felix*

Session ITA-3: Pattern Recognition, Data Mining, and Artificial Intelligence (I)

Mining Binary Data with Matrix Algebra	901
<i>Ritu Chaturvedi and C.I. Ezeife</i>	
Rankboost-Based Result Merging	907
<i>Benjamin Ghansah, Shengli Wu, and Nathaniel Ghansah</i>	
Blind Detection of Image Splicing Based on Fuzzy Run-Length	915
<i>Zenan Shi, Xuanjing Shen, Haipeng Chen, and Xiang Li</i>	
ITSR-HISL: An Improved Model for Trajectory Signature Recognition in Human Interactive Sign Language	921
<i>Nehal F. Attia, Sherin M. Youssef, and Saleh M. Elkaffas</i>	

Session ITA-4: Pattern Recognition, Data Mining, and Artificial Intelligence (II)

Adaptive Context-Sensitive Spelling Error Correction Techniques for the Extremely Unpredictable Error Generating Language Environments	927
<i>Minho Kim, Sung-Ki Choi, Jingzhi Jin, and Hyuk-Chul Kwon</i>	
Practical Target Word Selection Method in Korean to Korean Sign Language Machine Translation	931
<i>Minho Kim, Sung-ki Choi, Aesun Yoon, and Hyuk-Chul Kwon</i>	
Methodology for an Open Digital Forensics Model Based on CAINE	935
<i>Casimer Decusatis, Aparicio Carranza, Alassane Ngaide, Sundas Zafar, and Nestor Landaez</i>	
A Reliable Crisis Information System to Share Data after the Event of a Large-Scale Disaster	941
<i>Marcello Cinque, Domenico Cotroneo, Christian Esposito, Mario Fiorentino, and Stefano Russo</i>	

Session ITA-5: Future Internet

Use Cases and Development of Software Defined Networks in OpenStack	947
<i>Arti Mann, Wei Wei, Ravi Badana, Tong Zhang, and T. Andrew Yang</i>	
Euclidean Distance-Based QoS Metric for Dynamic MAP Selection in HMIPv6 Network	954
<i>Esad Kadušić, Nataša Živic, Mirko Škrbic, Mesud Hadžialic, and Narcis Behlilovic</i>	
Real Time Bi-directional Traffic Management Support System with GPS and WebSocket	959
<i>Md. Rahatur Rahman and Shamim Akhter</i>	

Session ITA-6: High Performance Computing

Power System Applications Integration for the Smart Grid	965
<i>Do Eun Oh and Hyun Soo Kim</i>	
Static Group Privacy Protection Mechanism Based on Cloud Model	970
<i>Ruxiang Zhai, Kun Zhang, and Mingjun Liu</i>	
Tracking File's Metadata from Computer Memory Analysis	975
<i>Khairul Akram Zainol Ariffin, Ahmad Kamil Mahmood, Jafreezal Jaafar, and Solahuddin Shamsuddin</i>	

Session ITA-7: Computer Graphics/Image Processing

Facial Expression Recognition with sEMG Method	981
<i>Mingzhe Jiang, Amir-Mohammad Rahmani, Tomi Westerlund, Pasi Liljeberg, and Hannu Tenhunen</i>	
A Correlated Topic Modeling Approach for Facial Expression Recognition	989
<i>Rouxin Sang and K.P. Chan</i>	
Improving Camera Pose Estimation for Indoor Marker-less Augmented Reality	994
<i>Sud Sudirman and Abdennour El-Rhalibi</i>	

Session MSNCom-1: Mobile Social Networking and Computing

Intelligent Mobile Framework Based on Swarm Computation	1000
<i>Xinzheng Niu, Dazhuang Su, and Minhao Cheng</i>	
A Web Service Composition Method Based on Merging Genetic Algorithm and Ant Colony Algorithm	1007
<i>Zhengde Zhao, Xin Hong, and Shaohua Wang</i>	
The Research on Collaborative Filtering Recommendation Algorithm Based on Improved Clustering Processing	1012
<i>Shaohua Wang, Zhengde Zhao, and Xin Hong</i>	
The Video Recommendation System Based on DBN	1016
<i>Cui Hongliang and Qin Xiaona</i>	
Content-centric Network-Based MANET for Streaming Video Transmission	1022
<i>Olfa Ben Rhaiem, Lamia Chaari Fourati, and Anis Masmoudi</i>	

Session WISH-1: Imaging and Sensor Technologies for Improved Healthcare

A Fast and Accurate Iris Localization Technique for Healthcare Security System	1028
<i>Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, and Shumoos Al-Fahdawi</i>	
An Automatic Corneal Subbasal Nerve Registration System Using FFT and Phase Correlation Techniques for an Accurate DPN Diagnosis	1035
<i>Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, and Stan Ipson</i>	
Breast Cancer Detection Using 1D, 2D, and 3D FDTD Numerical Methods	1042
<i>A.F. Mirza, F. Abdulsalam, R. Asif, Y.A.S. Dama, M.M. Abusitta, F. Elmegri, R.A. Abd-Alhameed, J.M. Noras, and R. Qahwaji</i>	

The Application of Full-Field Optical Coherence Tomography on Evaluating Film Coating of Pharmaceutical Pellets	1046
<i>Jinke Zhang, Yaochun Shen, and Yalin Zheng</i>	
Smart Bolus Estimation Taking into Account the Amount of Insulin on Board	1051
<i>Ahmad M. Al-Taee, Majid A. Al-Taee, Waleed Al-Nuaimy, Zahra J. Muhsin, and Hamzah AlZu'bi</i>	
Channel Estimation for OFDM FFT/DWT in Multi-carrier Modulation Used in Wireless Telemedicine	1057
<i>H.S.O. Migdadi, H. Obeidat, K.O. Anoh, N.N. Khatib, J.M. Noras, R. Qahwaji, and R.A. Abd-Alhameed</i>	

Session IUCC-1: Sensor Networks and Ad Hoc Networks

Wear-I: A New Paradigm in Wearable Computing (Invited Paper)	1063
<i>Jianhua Ma and Runhe Huang</i>	
Beaconless Geographic Routing Protocol with Adaptive Delay Timer in Wireless Sensor Networks	1069
<i>Jeongcheol Lee, SeokYoon Kang, ChungJae Lee, Kyong Hoon Kim, and Ki-II Kim</i>	
Energy-Efficient Location Estimation Using Variable Range Beacons in Wireless Sensor Networks	1074
<i>Muhammad Farooq-i-Azam, Qiang Ni, Ejaz A. Ansari, and Haris Pervaiz</i>	
Energy Efficient Adaptive Cooperative Communications in Wireless Sensor Networks	1080
<i>Radwa Ahmed Osman, Xiao-Hong Peng, and Zuoyin Tang</i>	
XML Based Wireless Patient Monitoring System Using Vehicular Ad-Hoc Networks	1087
<i>Avleen Kaur Malhi and Shalini Batra</i>	
When Smart Phone Meets Vehicle: A New On-Board Unit Scheme for VANETs	1095
<i>Xiuqi Li, Yong Feng, Feng Wang, and Qian Qian</i>	
Probabilistic Area-Based Dissemination for Heterogeneous Transmission Ranges in Vehicular Ad-Hoc Networks	1101
<i>Maryam M. Alotaibi and Hussein T. Mouftah</i>	

Session IUCC-2: Internet of Things

A Decentralized Batch-Based Group Key Management Protocol for Mobile Internet of Things (DBGK)	1109
<i>Mohammed Riyadh Abdmeziem, Djamel Tandjaoui, and Imed Romdhani</i>	
A Dynamic Power Tuning for the Constrained Application Protocol of Internet of Things	1118
<i>Mamoun Qasem, Ahmed Al-Dubai, Imed, Romdhani, and Muneer Bani Yassien</i>	
E-Trickle: Enhanced Trickle Algorithm for Low-Power and Lossy Networks	1123
<i>Baraq Ghaleb, Ahmed Al-Dubai, and Elias Ekonomou</i>	

Session IUCC-3: Detection, Identification, and Recognition

Exploring Accuracy-Cost Tradeoff in In-Home Living Activity Recognition Based on Power Consumptions and User Positions	1130
<i>Kenki Ueda, Hirohiko Suwa, Yutaka Arakawa, and Keiichi Yasumoto</i>	
Bootstrapping Personalised Human Activity Recognition Models Using Online Active Learning	1138
<i>Tudor Miu, Paolo Missier, and Thomas Plötz</i>	
Minutiae Based Automatic Fingerprint Recognition: Machine Learning Approaches	1148
<i>Amjad Ali, Rehanullah Khan, Irfan Ullah, Adnan Daud Khan, and Abid Munir</i>	
Automatic Animal Detection from Kinect Sensed Images for Livestock Monitoring and Assessment	1154
<i>Qiming Zhu, Jinchang Ren, David Barclay, Samuel McCormack, and Willie Thomson</i>	
Temporal Recursive Pedestrian Trajectory Identification for Multi-camera Surveillance System	1158
<i>Cong Shen, Rong Xie, and Liang Zhang</i>	
ECG Security Identification System on the Zynq SoC Platform	1164
<i>Xiaojun Zhai, Abbes Amira, and Faycal Bensaali</i>	

Session IUCC-4: Wireless Networks and Ubiquitous Networks

Integration of QoS Parameters from IEEE 802.11s WLAN Mesh Networks into Logical P2P Overlays	1170
<i>Michael Rethfeldt, Peter Danielis, Björn Konieczek, Felix Uster, and Dirk Timmermann</i>	
A New Relay Node Selection Model for Wireless Community Mesh Networks	1178
<i>Liang Zhao, Ahmed Y. Al-Dubai, Xianwei Li, and Guolong Chen</i>	
Joint Relay Selection and Resource Allocation for D2D-Enabled Cellular Communications	1186
<i>Guopeng Zhang, Ru Wang, Shuanshuan Wu, Lin Chen, Bo Dai, Kun Yang, and Liqiang Zhao</i>	
Adaptive Current Level Control Algorithm For Battery-Powered ZigBee Network in Enterprise Settings	1193
<i>Yitian Zhang, Kun Yang, and Xiao Wang</i>	
Increasing Interference Robustness of WiFi Fingerprinting by Leveraging Spectrum Information	1200
<i>Filip Lemic, Arash Behboodi, Vlado Handziski, and Adam Wolisz</i>	
Channel Capacity Analysis of Blood Capillary-Based Molecular Communication	1209
<i>Yue Sun, Kun Yang, and Qiang Liu</i>	
Performance Investigation and Comparison between Virtual Networks and Physical Networks Based on an Advanced Testbed Network	1216
<i>Tong Li, Xiaodan Zhang, Zongzhen Liu, Jingguo Ge, Zhongjiang Yao, Yuepeng E, Yulei Wu, and Lei Zhang</i>	

Session IUCC-5: Data Processing and Big Data

Prototyping and In-Depth Analysis of Big Data Benchmarking	1222
<i>Divya Pandove and Shivani Goel</i>	
Pota: Maximizing Profit for Task-Level Scheduling for Data Center Networks	1230
<i>Xiaoyi Tao, Heng Qi, Wenxin Li, Keqiu Li, and Yingwei Jin</i>	
A Data Imputation Method Based on Deep Belief Network	1238
<i>Zhikui Chen, Siqian Liu, Kunyou Jiang, Han Xu, and Xinru Cheng</i>	
DRISTI: Distributed Real-Time In-Situ Seismic Tomographic Imaging	1244
<i>Goutham Kamath, Wen-Zhan Song, Paritosh Ramanan, Lei Shi, and Junjie Yang</i>	

Session IUCC-6: Resource Management and Scheduling

Load Scheduling Based on an Advanced Real-Time Price Forecasting Model	1252
<i>Xing Luo, Xu Zhu, and Eng Gee Lim</i>	
On the Implementation of RT-FAIR Scheduling Framework in Linux	1258
<i>Hang Su, Dakai Zhu, and Jiafeng Zhu</i>	
Developing Energy-Aware Task Allocation Schemes in Cloud-Assisted Mobile Workflows	1266
<i>Bo Gao, Ligang He, Xin Lu, Cheng Chang, Kenli Li, and Keqin Li</i>	
A Smartphone Management Method to Save Battery Using Bayesian Networks and Fuzzy System	1274
<i>Jun-Ho Kim and Sung-Bae Cho</i>	

Session IUCC-7: Ubiquitous Computing and Ambient Intelligence

DIVINE: Building a Wearable Device for Intelligent Control of Environment Using Google Glass	1280
<i>Tamir Sobeih, Nick Whittaker, and Liangxiu Han</i>	
Cost-Effective Hybrid Replacement Strategy for SSD in Web Cache	1286
<i>Qu Li, Xiaofei Liao, Hai Jin, Li Lin, Xia Xie, and Qiongjie Yao</i>	
Analysis of Urban Residential Water Consumption Based on Smart Meters and Fuzzy Clustering	1295
<i>Ji Yang, Yong Li, Nan Feng Zhang, Jing Feng Yang, Ke Kuang, Yue Hua Hu, and Wen Guang Qi</i>	
Response Time in Switching Scents When Converting Scenes	1302
<i>Shutaro Homma, Eri Matsuura, Sayaka Matsumoto, Shohei Horiguchi, and Ken-ichi Okada</i>	
COVER: A Cooperative Virtual Force Robot Deployment Technique	1308
<i>Gamal Sallam and Uthman Baroudi</i>	
Assessing Physical Location as a Potential Contextual Cue For Adaptive Mobile Contact Lists	1316
<i>Athanasis Plessas, Olga Georgiadou, Vassilios Stefanis, Andreas Komninos, and John Garofalakis</i>	

Anti-counterfeiting Using Irregularities of Magnetic Flux Density	1325
<i>Hyunho Kang and Keiichi Iwamura</i>	
A Map-Reduce Method for Training Autoencoders on Xeon Phi	1330
<i>Qiongjie Yao, Xiaofei Liao, and Hai Jin</i>	
Universal Random Number Generation with Field-Programmable Analog Array and Magnetic Tunneling Junction (MTJ) Devices	1338
<i>Yu Bai and Mingjie Lin</i>	

Session IWSCA-1: Soft Computing and Applications

Integrated QoS Assessment of Web Services	1344
<i>Olga Georgieva and Dessislava Petrova-Antanova</i>	
On Induced Soft Sets and Topology for the Parameter Set of a Soft Set	1349
<i>Zhicai Liu, Keyun Qin, Zheng Pei, and Jin Liu</i>	
A Consensus Model for Multiple Criteria Group Decision Making under Linguistic Environment	1354
<i>Fen Zou, Liangzhong Yi, Zheng Pei, and Jing Liu</i>	
Entropy on Interval-Valued Intuitionistic Fuzzy Soft Set	1360
<i>Yaya Liu and Keyun Qin</i>	
The Rough Set Model Based on Grade Indiscernibility Relation	1366
<i>Junfang Luo and Keyun Qin</i>	

Session ICTA-1: Innovative Computational Technologies and Its Applications

Estimation of Physical Activity Walking in Different Slopes Based on Accelerometer Approach	1372
<i>Kai He, Jing-Xian Yao, and Hsien-Tsung Chang</i>	
Energy-Efficient Multimedia Multicast Scheduling and Resource Allocation Algorithms for OFDMA-Based Systems	1377
<i>Shih-Lin Wu and Wei-Wen Wang</i>	
Efficient Strategies of Compressing Three-Dimensional Sparse Arrays Based on Intel XEON and Intel XEON Phi Environments	1383
<i>Chun-Yuan Lin, Huang Ting Yen, and Che-Lun Hung</i>	
Trusted Platform Based Linux File Access Control	1389
<i>Guang-liang Guo and Quan Qian</i>	
Efficient Brain MRI Segmentation Algorithm on TK1	1395
<i>Che-Lun Hung, Chun-Yuan Lin, Yuan-Huai Wu, Hsiao-Hsi Wang, and Yu-Chen Hu</i>	
Voice Helper: A Mobile Assistive System for Visually Impaired Persons	1400
<i>Kuei-Chun Liu, Ching-Hung Wu, Shau-Yin Tseng, and Yin-Te Tsai</i>	

Session MT4H-1: Mobile Technology for Healthcare

Walk and Jog Characterization Using a Triaxial Accelerometer	1406
<i>Jose David López, Angela Sucerquia, Leonardo Duque-Muñoz, and Francisco Vargas-Bonilla</i>	
Activity Tracker and Elderly	1411
<i>Peter Rasche, Matthias Wille, Sabine Theis, Katharina Schäfer, Christopher M. Schlick, and Alexander Mertens</i>	
Introducing Digital Wellness: Bringing Cyberpsychological Balance to Healthcare and Information Technology	1417
<i>Ciarán McMahon and Mary Aiken</i>	
Clustering of Physical Activities for Quantified Self and mHealth Applications	1423
<i>Chelsea Dobbins and Reza Rawassizadeh</i>	

Session AUCN-1: Advances in Ubiquitous Computing and Networking (I)

A Simple Software Development Methodology Based on MVP for Android Applications in a Classroom Context	1429
<i>Carmen N. Ojeda-Guerra</i>	
Travel Time Prediction on Highways	1435
<i>Jan Rupnik, John Davies, Blaž Fortuna, Alistair Duke, and Sandra Stincic Clarke</i>	
A Combined Smartphone and Smartwatch Fall Detection System	1443
<i>Thomas Vilarinho, Babak Farshchian, Daniel Gloppestad Bajer, Ole Halvor Dahl, Iver Egge, Sondre Steinsland Hegdal, Andreas Lønes, Johan N. Slettevold, and Sam Mathias Weggersen</i>	
CoRFL: A Connectivity Restoration Mechanism Using Fuzzy Logic in Wireless Actor and Sensor Networks	1449
<i>Uthman Baroudi and Mohammed Aldarwibi</i>	
Inspired Counter Based Broadcasting for Dynamic Source Routing in Mobile Networks	1455
<i>Muneer Bani Yassein and Ahmed Y. Al-Dubai</i>	
Development of ZigBee Triaxial Accelerometer Based Human Activity Recognition System	1460
<i>S. Irene, N.M. Shwetha, P. Haribabu, and R. Pitchiah</i>	

Session AUCN-2: Advances in Ubiquitous Computing and Networking (II)

Towards a Holistic Multi-cloud Brokerage System: Taxonomy, Survey, and Future Directions	1467
<i>Bandar Aldawsari, Thar Baker, and David England</i>	
C2@home - A Novel User-Side Cloud-of-Clouds Management Architecture	1473
<i>Antonella Di Stefano, Giovanni Morana, and Daniele Zito</i>	
Wireless Location Estimation Using Virtual Forces	1481
<i>Fahed H. Awad</i>	

Towards a Mobile Assistive Technology for Monitoring and Assessing Cognitive Fatigue in Individuals with Acquired Brain Injury	1487
<i>Edward Price, George Moore, Leo Galway, and Mark Linden</i>	
Probabilistic Estimation of Resource Affinities of Processes in Computing Systems	1492
<i>Susmit Bagchi</i>	

Session BigData-1: Big Data and Smart Sustainable Society

Towards a Semantic Layer to Support Road and Public Transport User Decision-Making	1498
<i>Nicholas Gould and David Atkin</i>	
Development of an Integrated Agent for Greener Airport Operations	1504
<i>Zhexing Yan and Mahroo Eftekhari</i>	
Big Data Computation for Workshop-Based Planning Support	1510
<i>Jianguang Tu, Jianquan Cheng, and Liangxiu Han</i>	
Implementation of the Big Data Management System for Demand Side Energy Management	1515
<i>Jungin Choi, Mijeom Kim, and Jaeweon Yoon</i>	
POPmine: Tracking Political Opinion on the Web	1521
<i>Pedro Saleiro, Sílvio Amir, Mário Silva, and Carlos Soares</i>	
Nudge Better Quantified-Self with Context-Aware and Proactive Services	1527
<i>Li Guo</i>	
Towards a Heterogeneous Compute Engine for Software Acceleration on Big Data Infrastructures	1533
<i>Christos Margiolas and Ioannis Manousakis</i>	
Predictive Models for Energy-Efficient Clouds: An Analysis on Real-Life and Synthetic Data	1538
<i>Albino Altomare and Eugenio Cesario</i>	
Towards Free Market Cloud Computing	1544
<i>Jeremy Singer, Abyd Adhami, and Colin Perkins</i>	

Session VEAI-1: Virtual Environments and Advanced Interfaces

Separating Gesture Detection and Application Control Concerns with a Multimodal Architecture	1548
<i>Leonor Morgado, Bernardo Cardoso, Fausto de Carvalho, Luís Fernandes, Hugo Paredes, Luís Barbosa, Benjamim Fonseca, Paulo Martins, and Ricardo Rodrigues Nunes</i>	
The Potential of the Brain-Computer Interface for Learning: A Technology Review	1554
<i>Leo Galway, Paul McCullagh, Gaye Lightbody, Chris Brennan, and David Trainor</i>	
Design of Novel Teaching Episodes in Medical Education Using Emerging Experiential Digital Assets: Technology Enabled Medical Education Beyond the Gimmicky	1560
<i>Panagiotis E. Antoniou, Eleni Dafli, and Panagiotis D. Bamidis</i>	

Simulating Nature for Elderly Users - A Design Approach for Recreational Virtual Environments	1566
<i>Jon Ram Bruun-Pedersen, Stefania Serafin, and Lise Busk Kofoed</i>	
Playing Immersive Games on the REVERIE Platform	1572
<i>Ioannis Doumanis, Julie Wall, and David S. Monaghan</i>	
Hardware Interfaces for VR Applications: Evaluation on Prototypes	1578
<i>Markos Mentzelopoulos, Filippo Tarpini, Agazio Emanuele, and Aristidis Protopsaltis</i>	
The REVERIE Human Representation Addresses Issues Related to Virtual Presence, Communication, and Interaction in Collaborative Virtual Environments	1584
<i>Ioannis Doumanis, Daphne Economou, and Nektarios Georgalas</i>	
Lessons from Digital Puppetry: Updating a Design Framework for a Perceptual User Interface	1590
<i>Jeffrey Ferguson</i>	

Session IoT-Smart-1: Internet of Things and Smart Spaces

Survey on Clean Slate Cellular-IoT Standard Proposals	1596
<i>Wael Guibene, Keith E. Nolan, and Mark Y. Kelly</i>	
Performance Evaluation of the RPL Protocol in Fixed and Mobile Sink Low-Power and Lossy-Networks	1600
<i>Isam Wadhaj, Istvan Kristof, Imed Romdhani, and Ahmed Al-Dubai</i>	
Performance Evaluation of RPL Objective Functions	1606
<i>Mamoun Qasem, Hussien Altawssi, Muneer Bani Yassien, and Ahmed Al-Dubai</i>	
Empirical Experiments for Sensors' Distance Estimation in Smart Places	1614
<i>Nadhir Ben Halima, Yaser Khamayseh, Wail Mardini, and Abedl Rahman Almodawar</i>	
Level Crossing Rate of Ratio of Product of Two k - u Random Variables and Nakagami- m Random Variable	1620
<i>Dragana Krstie, Imed Romdhani, Muneer Masadeh Bani Yassein, Siniša Minic, Goran Petkovic, and Predrag Milacic</i>	

Session HWNQoE-1: Heterogeneous Wireless Networks and Quality-of-Experience

Content-Based Video Quality Prediction Using Random Neural Networks for Video Streaming over LTE Networks	1626
<i>Tarik Ghalut, Hadi Larijani, and Ali Shahrabi</i>	
OpenFlow 1.3 Extension for OMNeT++	1632
<i>Mukhald A. Salih, John Cosmas, and Yue Zhang</i>	
Medium Access Control Protocol to Address Hidden Terminals in MU-MIMO WLANs	1638
<i>Sanjeeb Shrestha, Gengfa Fang, Eryk Dutkiewicz, and Xiaojing Huang</i>	
Hata Path Loss Model Tuning for Cellular Networks in Irbid City	1646
<i>Omar Banimelhem, Muneer. M. Al-Zu'bi, and Mohammad S. Al Salameh</i>	

Session MultiCom-1: Multimedia Communications and Networking

Hybrid Clustered Peer-Assisted DASH-SVC System	1651
<i>Ran Dubin, Ofer Hadar, Yariv Freifeld, Aviv Ruham, Amit Dvir, Nissim Harel, and Refael Barkan</i>	
Video Quality in 5G Networks: Context-Aware QoE Management in the SDN Control Plane	1657
<i>Olatunde Awobuluyi, James Nightingale, Qi Wang, and Jose M. Alcaraz-Calero</i>	
Client QoE-Oriented Segment Selection for DASH	1663
<i>Mirghiasaldin Seyedebrahimi, Colin Bailey, and Xiao-Hong Peng</i>	
Anomalous Region Detection on the Mobility Data	1669
<i>Huan Huo, Shangye Chen, Liang Song, Leiyu Ban, Zonghan Wu, Liang Liu, and Liping Gao</i>	
Block-Based Feature Adaptive Compressive Sensing for Video	1675
<i>Xin Ding, Wei Chen, and Ian Wassell</i>	

Session DASC-1: Self-Protection and Intrusion-Detection (I)

Distributed Black Virus Decontamination and Rooted Acyclic Orientations	1681
<i>Jie Cai, Paola Flocchini, and Nicola Santoro</i>	
Towards Automated Generation and Visualization of Hierarchical Attack Representation Models	1689
<i>Fangcheng Jia, Jin B. Hong, and Dong Seong Kim</i>	
Predicting the Effects of DDoS Attacks on a Network of Critical Infrastructures	1697
<i>William Hurst, Nathan Shone, and Quentin Monnet</i>	
Efficient Discovery of Malicious Symptoms in Clouds via Monitoring Virtual Machines	1703
<i>Sultan S. Alshamrani, Dariusz R. Kowalski, and Leszek A. Gasieniec</i>	
Efficient Event Detection in Social Media Data Streams	1711
<i>Xiang Sun, Yan Wu, Lu Liu, and John Panneerselvam</i>	

Session DASC-2: Self-Protection and Intrusion-Detection (II)

A New Prime and Probe Cache Side-Channel Attack for Cloud Computing	1718
<i>Younis A. Younis, Kashif Kifayat, Qi Shi, and Bob Askwith</i>	
Evolutionary Virus Immune Strategy Based on Community Vitality	1725
<i>Cai Fu, Li Min, Jia Yang, Deliang Xu, Xiao-Yang Liu, and Lansheng Han</i>	
CloudZombie: Launching and Detecting Slow-Read Distributed Denial of Service Attacks from the Cloud	1733
<i>Saeed Shafieian, Mohammad Zulkernine, and Anwar Haque</i>	
Detection and Prevention of Malicious Requests in ICN Routing and Caching	1741
<i>Eslam G. AbdAllah, Mohammad Zulkernine, and Hossam S. Hassanein</i>	
A Three-Stage Process to Detect Outliers and False Positives Generated by Intrusion Detection Systems	1749
<i>Fatma Hachmi, Khadouja Boujenfa, and Mohamed Limam</i>	

Session DASC-3: Information and System Security

A Cyber Security Ontology for BPMN-Security Extensions	1756
<i>Curtis L. Maines, David Llewellyn-Jones, Stephen Tang, and Bo Zhou</i>	
An Empirical Risk Management Framework for Monitoring Network Security	1764
<i>Malik Shahzad Kaleem Awan, Pete Burnap, and Omer Rana</i>	
Protecting Future Personal Computing: Challenging Traditional Network Security Models	1772
<i>Helen Angela Brumfitt, Bob Askwith, and Bo Zhou</i>	
A Safety Concept for a Railway Mixed-Criticality Embedded System Based on Multicore Partitioning	1780
<i>Irune Agirre, Mikel Azkarate-Ascasua, Asier Larrucea, Jon Perez, Tullio Vardanega, and Francisco J. Cazorla</i>	
A Modular Safety Case for an IEC 61508 Compliant Generic COTS Processor	1788
<i>Asier Larrucea, Jon Perez, and Roman Obermaisser</i>	

Session DASC-4: Trust and Privacy

Digital Memories Based Mobile User Authentication for IoT	1796
<i>Nathan Shone, Chelsea Dobbins, William Hurst, and Qi Shi</i>	
The Trustworthy Autonomic Interface Guardian Architecture for Cyber-Physical Systems	1803
<i>Kevin G. Lyn, Lee W. Lerner, Christopher J. McCarty, and Cameron D. Patterson</i>	
ShutterRoller: Preserving Social Network Privacy towards High-Speed Domain Gateway	1811
<i>Borui Yang, Jianxin Li, Lu Liu, Yingjie Cao, Hua Wei, Peiyuan Sun, Nannan Wu, and Bo Li</i>	
Identity-Based Association Protocols for Wireless Personal Area Networks	1819
<i>Xin Huang, Paul Craig, and Qinghua Wang</i>	
Representation of Trust and Reputation in Self-Managed Computing Systems	1827
<i>Jan Kantert, Sarah Edenhofer, Sven Tomforde, and Christian Müller-Schloer</i>	
Preserving Source-Location Privacy through Redundant Fog Loop for Wireless Sensor Networks	1835
<i>Mianxiong Dong, Kaoru Ota, and Anfeng Liu</i>	

Session DASC-5: Autonomic Computing Theory, Models, Architectures, and Communications

Simulation Environment Based on SystemC and VEOS for Multi-core Processors with Virtual AUTOSAR ECUs	1843
<i>Moisés Urbina, Zaher Owda, and Roman Obermaisser</i>	
Evaluation and Prevention of MAC Layer Misbehaviours in Public Wireless Hotspots	1853
<i>Chaminda Alocious, Hannan Xiao, Bruce Christianson, and James Malcolm</i>	
Enterprise Data Center Globality Measurement	1861
<i>Ruairí de Fréin, Joel Pfaff, and Thomas Paré</i>	

Towards Efficient Dissemination and Filtering of XML Data Streams	1870
<i>Kirill Belyaev and Indrakshi Ray</i>	
CCTV as a Smart Sensor Network	1878
<i>Giles Oatley, Tom Crick, and Dee Bolt</i>	

Session DASC-6: QoS of Communications and Services (I)

Take Off a Load: Load-Adjusted Video Quality Prediction and Measurement	1886
<i>Ruairí de Fréin</i>	
PAM: A Packet Manipulation Mechanism for Mitigating Crosstalk Faults in NoCs	1895
<i>Zahra Shirmohammadi, Mohsen Ansari, Sanaz Kazemi Abharian, Sepideh Safari, and Seyed Ghassem Miremadi</i>	
Correlation-Based Top-k Recommendation for Web Services	1903
<i>Qi Xie, Zibin Zheng, Lu Liu, and Mengtian Cui</i>	

Session DASC-7: QoS of Communications and Services (II)

The Impact of Hypervisor Scheduling on Compromising Virtualized Environments	1910
<i>Tsvetoslava Vateva-Gurova, Neeraj Suri, and Avi Mendelson</i>	
Incremental, Distributed, and Concurrent Scheduling in Systems-of-Systems with Real-Time Requirements	1918
<i>Roman Obermaisser and Ayman Murshed</i>	
Diverse Compiling for Microprocessor Fault Detection in Temporal Redundant Systems	1928
<i>Andrea Höller, Tobias Rauter, Johannes Iber, and Christian Kreiner</i>	
Calligraphy Imitation System Based on Virtual Brush and Scale-Invariant Feature Transform	1936
<i>Zhu Li, Li Jun, Hu Tao, and Xiang Jun</i>	

Session PASS4CI-1: Privacy, Data Assurance, Security Solutions for Cloud Computing and Internet-of-Things

Linear (k, n) Secret Sharing Scheme with Cheating Detection	1942
<i>Yan-xiao Liu, Zhi-xiao Wang, and Wen-yao Yan</i>	

Session SocialSec-1: Social Computing and Security

A Fragment Classification Method Depending on Data Type	1948
<i>Ning Zheng, Jinlong Wang, Ting Wu, and Ming Xu</i>	
Don't Speak to Strangers: The Suspicious Strategy Can Help to Improve Cooperation in Spatial Donation Game	1954
<i>Hong Ding, Junyao Huang, Yuangfang Chen, and Yizhi Ren</i>	
A Secure Authentication Scheme for Session Initiation Protocol Based on Elliptic Curve Cryptography	1960
<i>Shehzad Ashraf Chaudhry, Khalid Mahmood, Husnain Naqvi, and Muhammad Sher</i>	

Session CEWE-1: Cybercrimes and Emerging Web Environments

Counterfeiting and Defending the Digital Forensic Process	1966
<i>Álvaro Botas, Ricardo J. Rodriguez, Teemu Väisänen, and Patrycjusz Zdzichowski</i>	
Mitigating Circumstances in Cybercrime: A Position Paper	1972
<i>Raihan Ali, John McAlaney, Shamal Faily, Keith Phulp, and Vasilios Katos</i>	
MP-Shield: A Framework for Phishing Detection in Mobile Devices	1977
<i>Giovanni Bottazzi, Emiliano Casalicchio, Davide Cingolani, Fabio Marturana, and Marco Piu</i>	
The Evidentiary Value of Link Files in Linux File System to Digital Forensic Investigation	1984
<i>Tharmini Janarthanan and Shahrzad Zargari</i>	
Fast Mining of Large-Scale Logs for Botnet Detection: A Field Study	1989
<i>Giovanni Bottazzi and Giuseppe Francesco Italiano</i>	

Session SHPC-1: Sustainable High Performance Computing

Zero-Carbon Cloud: A Volatile Resource for High-Performance Computing	1997
<i>Andrew A. Chien, Rich Wolski, and Fan Yang</i>	
Use HDLC Principles for Distributed Applications	2002
<i>Justin Y. Shi</i>	
AnkaCom: A Development and Experiment for Extreme Scale Computing	2010
<i>Yasin Celik, Aakash Pradeep, and Justin Y. Shi</i>	

Session ASCC-1: Advances in Autonomic and Secure Computing and Communications

A Mobile Phone Device as a Biometrics Authentication Method for an ATM Terminal	2017
<i>Nabeel Ali Albahbooh and Patrick Bours</i>	
Human-Computer Interaction System for Communications and Control	2025
<i>Svetla Radeva and Dimitar Radev</i>	
Using Dropped Call as an Authentication Factor	2031
<i>Balwinder Sodhi</i>	
Function and Performance of Testing: Towards a Systemic View	2036
<i>Krzysztof M. Brzezinski</i>	

Session ASCC-2: Advances in Autonomic and Secure Computing and Communications

Autonomic Management Using Self-Stabilization for Hierarchical and Distributed Middleware	2043
<i>Maurice Djibril Faye, Eddy Caron, and Ousmane Thiaré</i>	
A Context Aware Reputation Mechanism for Enhancing Big Data Veracity in Mobile Cloud Computing	2049
<i>Hui Lin, Jia Hu, Jiajia Liu, Li Xu, and Yulei Wu</i>	

Empirical Analysis of Rate Limiting + Leap Ahead (RL+LA) Countermeasure against Witty Worm	2055
---	------

Khurram Shahzad and Steve Woodhead

Fuzzy Inference Based Intrusion Detection System: FI-Snort	2062
--	------

Nitin Naik

Toward a Secure Android Software Protection System	2068
--	------

Junfeng Xu, Li Zhang, Yunchuan Sun, Dong Lin, and Ye Mao

Session IBDS-1: Intelligent Big Data Systems

Computational Objectivity in Depression Assessment for Unstructured Large Datasets	2075
--	------

*Aaron Johnson, Paul Holmes, Lewis Craske, Marcello Trovati, Nik Bessis,
and Peter Larcombe*

Investigation of Energy Efficiency on Cloud Computing	2080
---	------

Nathan Whittington, Lu Liu, Bo Yuan, and Marcello Trovati

A Semi-automated Assessment of the Direction of Influence Relations from Semantic	2088
---	------

Networks: A Case Study in Maths Anxiety	2088
---	------

Marcello Trovati, Jayne Trovati, Peter Larcombe, and Lu Liu

Reducing Vehicular Traffic Congestion Using Available Forward Road Capacity	
---	--

Detection	2092
-----------------	------

James Hardy and Lu Liu

Session PICoM-1: Ubiquitous Intelligence & Cyber-Physical Computing

Crowd Steering in Public Spaces: Approaches and Strategies	2098
--	------

*Andrea Sassi, Claudio Borean, Roberta Giannantonio, Marco Mamei, Dario Mana,
and Franco Zambonelli*

Performance Evaluation of Cyber-Physical Intrusion Detection on a Robotic Vehicle	2106
---	------

Tuan Phan Vuong, George Loukas, and Diane Gan

A Smartphone-Based System for Personal Data Management and Personality Analysis	2114
---	------

Ao Guo and Jianhua Ma

A Novel Image Quality Assessment Method Based on Vision Attention	2123
---	------

Zehua Lan, Yu Li, and Xingang Liu

ShakeMe: Key Generation from Shared Motion	2130
--	------

Hidir Yüzugüzel, Jari Niemi, Serkan Kiranyaz, Moncef Gabbouj, and Thomas Heinz

Session PICoM-2: Artificial Intelligence & Knowledge Computing

A Rule-Based Ontology Reasoning System for Context-Aware Building Energy Management	2134
--	------

Jinsoo Han, Youn-Kwae Jeong, and Ilwoo Lee

A Convolutional Neural Network for Leaves Recognition Using Data Augmentation	2143
---	------

Chaoyun Zhang, Pan Zhou, Chenghua Li, and Lijun Liu

Neural Networks Based Formation Control of Anti-ship Missiles with Constant Velocity	2151
<i>Yuan Wang, Yongkun Wang, Mingwei Sun, Shengzhi Du, and Zengqiang Chen</i>	
Interactive Display Services for Smart Environments	2157
<i>Jens Naber, Dominik Schäfer, Sebastian VanSyckel, and Christian Becker</i>	
Prevent Cooking Risks in Kitchen of Elderly People: Adaptable Reasoning Engine Based on Fuzzy Logic for Smart Oven	2165
<i>Bessam Abdulrazak and Rami Yared</i>	
Parameter Optimisation for Location Extraction and Prediction Applications	2173
<i>Alasdair Thomason, Nathan Griffiths, and Victor Sanchez</i>	
Unified Structure and Data Driven Process for Knowledge Enrichment and Problem Solving	2181
<i>Atsushi Sato and Runhe Huang</i>	

Session PICom-3: Wireless Networks

Cooperative Socio-aware Dynamic Backoff Optimization for Urban VANETs	2189
<i>Matthias Sander Frigau</i>	
A Secure Cooperative Spectrum Sensing Strategy for Distributed Cognitive Radio Networks	2198
<i>Hui Lin, Jia Hu, Chuan Huang, and Li Xu</i>	
Backhaul Aggregation for Smart Homes in Heterogeneous Wireless Networks	2206
<i>Muhammad Asad Khan, Supeng Leng, Xiaoyan Huang, Jiechen Yin, and Bo Fan</i>	
FPGA Based Reconfigurable IPSec AH Core Suitable for IoT Applications	2212
<i>Muzaffar Rao, Thomas Newe, Ian Grout, Elfed Lewis, and Avijit Mathur</i>	

Session PICom-4: Intelligent Social Networking

Coalition Based Bandwidth Allocation in Mobile Social Networks	2217
<i>Bo Fan, Supeng Leng, Kun Yang, and Geyong Min</i>	
Context-Aware Service Discovery and Selection in Decentralized Environments	2224
<i>Mariwan Ahmed, Lu Liu, Bo Yuan, Marcello Trovati, and James Hardy</i>	
Pervasive Information Visualization: Toward an Information Visualization Design Methodology for Multi-device Co-located Synchronous Collaboration	2232
<i>Paul Craig, Xin Huang, Huayue Chen, Xi Wang, and Shiyao Zhang</i>	
The Mobile Tree Browser: A Space Filling Information Visualization for Browsing Labelled Hierarchies on Mobile Devices	2240
<i>Paul Craig and Xin Huang</i>	
The Robustness of Face-Based CAPTCHAs	2248
<i>Haichang Gao, Lei Lei, Xin Zhou, Jiawei Li, and Xiyang Liu</i>	

Session PICom-5: High Performance Computing

Design and Verification of Heterogeneous Streaming Parallel Mechanisms on Kepler	
CUDA	2256
<i>Kailong Zhang, Shaoli Zhou, Liang Hu, Hang Su, Xiao Wu, and Kejian Miao</i>	
PSO Based Multiobjective Reliable Optimization Model for Cloud Storage	2263
<i>Xiyang Liu, Lei Fan, Liming Wang, and Sha Meng</i>	
Community Detection Algorithm Based on the Scale Free Property of Networks	2270
<i>Xiyang Liu, Qiong Pan, Yingying An, and Guimin Qin</i>	
An Efficient Method for Document Categorization Based on Word2vec and Latent	
Semantic Analysis	2276
<i>Ronghui Ju, Pan Zhou, Cheng Hua Li, and Lijun Liu</i>	
Water Quality Modeling for Pipeline Network Peripherals Based on Simulation of Water	
Age	2284
<i>Ji Yang, Yong Li, Nan Feng Zhang, Jing Feng Yang, Jian Tang, and Yong Xian Su</i>	

Session IoTBDH-1: Internet of Things and Big Data for Healthcare

Prediction and Guidance of Behaviour: A Web-Based Multipurpose Behaviour	
Intervention Investigation Methodology	2291
<i>Yang Fu and Wenyan Wu</i>	
Smart Health Monitoring Using the Advance Metering Infrastructure	2297
<i>Carl Chalmers, William Hurst, Michael Mackay, and Paul Fergus</i>	
A Prostate Cancer Care Process Example of Using Data from Internet of Things	2303
<i>Emmanuel Eyo Effio, Enjie Liu, Hong Qing Yu, and Jon Hitchcock</i>	
Improving the Validity of Lifelogging Physical Activity Measures in an Internet of Things	
Environment	2309
<i>Po Yang, Martin Hanneghan, Jun Qi, Zhikun Deng, Feng Dong, and Dina Fan</i>	
Life-Logging Data Aggregation Solution for Interdisciplinary Healthcare Research	
and Collaboration	2315
<i>Zhilun Deng, Po Yang, Youbing Zhao, Xia Zhao, and Feng Dong</i>	
Improving Reliability of Message Broadcast over Internet of Vehicles (IoVs)	2321
<i>Elias Eze C., Sijing Zhang, and Enjie Liu</i>	
Investigating Big Data Healthcare Security Issues with Raspberry Pi	2329
<i>Xiaohua Feng, Babatunde Onafeso, and Enjie Liu</i>	
MyHealthAvatar: A Case Study of Web-Based Interactive Visual Analytics of Lifestyle	
Data	2335
<i>Farzad Parvinzamir, Youbing Zhao, Zhikun Deng, Xia Zhao, Nikolaos Ersotelos, Feng Dong, Enjie Liu, and Gordon Clapworthy</i>	
BPMN Security Extensions for Healthcare Process	2340
<i>Koh Song Sang and Bo Zhou</i>	

Cognitive Radio Aided Internet of Vehicles (IoVs) for Improved Spectrum Resource Allocation	2346
---	------

Joy Eze, Sijing Zhang, Enjie Liu, Elias E. Chinedum, and Hong Q. Yu

A Survey of Physical Activity Monitoring and Assessment Using Internet of Things Technology	2353
---	------

Jun Qi, Po Yang, Dina Fan, and Zhikun Deng

Session PCIS-1: Pervasive Computing and Intelligence Systems

Sentiment Analysis Using Convolutional Neural Network	2359
---	------

Xi Ouyang, Pan Zhou, Cheng Hua Li, and Lijun Liu

Recognition of Dynamic Data Structures to Support Porting of Applications to the Cloud	2365
--	------

Beniamino Di Martino and Antonio Esposito

Assist-Me - A Volunteer Mobile Emergency System to Assist Elderly People	2373
--	------

Hady Khaddaj Mallat and Bessam Abdulrazak

A Dining Context-Aware System with Mobile and Wearable Devices	2381
--	------

Kee-Hoon Kim and Sung-Bae Cho

An Adaptable inVANETs-Based Intersection Traffic Control Algorithm	2387
--	------

Mourad Elhadef

Relay Node Deployment for Wireless Sensor Networks Based on PSO	2393
---	------

Bao Yu, Wang Yuanping, Zhao Liang, Hu Yuan, and Zhang Ajuan

Author Index