

2017 IEEE 31st International Conference on Advanced Information Networking and Applications (AINA 2017)

**Taipei, Taiwan
27-29 March 2017**

Pages 1-585



**IEEE Catalog Number: CFP17AIN-POD
ISBN: 978-1-5090-6030-6**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP17AIN-POD
ISBN (Print-On-Demand):	978-1-5090-6030-6
ISBN (Online):	978-1-5090-6029-0
ISSN:	1550-445X

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

2017 IEEE 31st International Conference on Advanced Information Networking and Applications

AINA 2017

Table of Contents

Message from IEEE AINA 2017 Steering Committee	
Co-Chairs	xvii
Message from IEEE AINA 2017 General Co-Chairs	
	xviii
Message from IEEE AINA 2017 Program Committee	
Co-Chairs	xix
Message from IEEE AINA 2017 Workshops Co-Chairs	
	xx
Organizing Committee	
	xxi
Program Committee	
	xxiii
Reviewers	
	xxxix
Keynote 1	
	xxxiii
Keynote 2	
	xxxiv
Sponsors	
	xxxv

Session 1: Network Protocols and Applications I

On the Path Management of Multi-path TCP in Internet Scenarios Based on the NorNet Testbed	1
<i>Kun Wang, Thomas Dreibholz, Xing Zhou, Fu Fa, Yuyin Tan, Xi Cheng, and Qining Tan</i>	
The Performance Impact of Buffer Sizes for Multi-path TCP in Internet Setups	9
<i>Feng Zhou, Thomas Dreibholz, Xing Zhou, Fa Fu, Yuyin Tan, and Quan Gan</i>	
On the Feasibility of Implementing TCP Using a Modular Architecture	17
<i>Mohamed Oulmahdi, Nicolas Van Wambeke, Christophe Chassot, and Abdelkamel Tari</i>	
Performance Evaluation of a New Flexible Time Division Multiplexing Protocol on Mixed Traffic Types	23
<i>Yangyang Song, Yonghao Wang, Peter Bull, and Joshua D. Reiss</i>	
A Downlink Resources Allocation Scheme for Multimedia Applications in OFDMA Wireless Systems	31
<i>Hassen Hamouda, Mohamed Ouweis Kabaou, and Mohamed Salim Bouhlef</i>	

Fair and Efficient Listen Before Talk (LBT) Technique for LTE Licensed Assisted Access (LAA) Networks	39
<i>Visali Mushunuri, Bighnaraj Panigrahi, Hemant Kumar Rath, and Anantha Simha</i>	

Session 2: Multimedia Systems and Applications I

SwapItUp: A Face Swap Application for Privacy Protection	46
<i>Sachit Mahajan, Ling-Jyh Chen, and Tzu-Chieh Tsai</i>	
A Proposal of Test Code Generation Tool for Java Programming Learning Assistant System	51
<i>Nobuo Funabiki, Ryota Kusaka, Nobuya Ishihara, and Wen-Chung Kao</i>	
Multi-domain Video over Software-Defined Networking (MDVSDN)	57
<i>Harold Owens II and Arjan Durrezi</i>	
A Proposal of Software Architecture for Java Programming Learning Assistant System	64
<i>Nobuya Ishihara, Nobuo Funabiki, Minoru Kuribayashi, and Wen-Chung Kao</i>	
Different Worlds Broadcasting: A Distributed Internet Live Broadcasting System with Video and Audio Effects	71
<i>Satoru Matsumoto, Yoshimasa Ishi, Tomoki Yoshihisa, Tomoya Kawakami, and Yuuichi Teranishi</i>	
An Advertising Reciprocal Platform for Microenterprises	79
<i>Thi-Thanh-An Nguyen, Chiao-Min Hu, and Shyan-Ming Yuan</i>	

Session 3: Energy Efficient Systems and Applications

Energy-Aware Virtual Machine Migration Models in a Scalable Cluster of Servers	85
<i>Ryo Watanabe, Dilawaer Duolikun, Tomoya Enokido, and Makoto Takizawa</i>	
An Approach toward Energy Consumption Optimization in Optical Transport Networks Using GMPLS Techniques	93
<i>Mykola Kaidan, Natalia Kryvinska, Volodymyr Andrushchak, and Mykhailo Klymash</i>	
Differentiating the Starting Time of Computation Process Replicas in the Improved Redundant Delay Time-Based (IRDTB) Algorithm	99
<i>Tomoya Enokido and Makoto Takizawa</i>	
Energy Efficiency of Cooperative MIMO in Wireless Sensor Networks over Rayleigh Fading Channel	107
<i>Lamia Grira and Ridha Bouallegue</i>	
Simple and Energy Efficient Image Compression for Pulse-Based Communication in THz Band	112
<i>Muhammad Agus Zainuddin, Eugen Dedu, and Julien Bourgeois</i>	
Multiagent Control System for Residential Energy Management under Real Time Pricing Environment	120
<i>Muhammad Babar Rasheed, Nadeem Javaid, Sardar Mehboob Hussain, Mariam Akbar, and Zahoor Ali Khan</i>	

Session 4: Network Protocols and Applications II

Gazing Beyond Horizon: The Predict Active Queue Management for Controlling Load Transients	126
<i>Ilpo Järvinen and Markku Kojo</i>	
Towards an Efficient File Synchronization between Digital Safes	136
<i>Mayssa Jemel, Mounira Msahli, and Ahmed Serhrouchni</i>	
Implementation and Evaluation of a Controller-Based Forwarding Scheme for NDN	144
<i>Elian Aubry, Thomas Silverston, and Isabelle Chrisment</i>	
Performance Management of Optical Transport Networks through Time Series Forecasting	152
<i>Jefferson Cavalcante, Ahmed Patel, and Joaquim Celestino</i>	
IEEE 802.11ac MU-MIMO Wireless LAN Cells with Legacy Clients	160
<i>Mamun Abu-Tair and Saleem N. Bhatti</i>	

Session 5: Multimedia Systems and Applications II

Family Structure Attribute Estimation Method for Product Recommendation System	167
<i>Chiaki Doi, Masaji Katagiri, Takashi Araki, Daizo Ikeda, and Hiroshi Shigeno</i>	
Sensing Activities and Locations of Senior Citizens toward Automatic Daycare Report Generation	174
<i>Yukitoshi Kashimoto, Tatsuya Morita, Manato Fujimoto, Yutaka Arakawa, Hirohiko Suwa, and Keiichi Yasumoto</i>	
Analyzing and Forecasting the Performance of Video Service Providers	182
<i>Jiali You, Yu Zhuo, Lixin Gao, Guoqiang Zhang, Hanxing Xue, and Jinlin Wang</i>	
Movie Summarization Based on Alignment of Plot and Shots	189
<i>Xueshan Li, Takehito Utsuro, and Hiroshi Uehara</i>	
An Adaptive Videoconferencing Framework for Collaborative Telemedicine	197
<i>Ronnie Muthada Pottayya, Jean-Christophe Lapayre, and Eric Garcia</i>	
Dynamic Textures and Covariance Stationary Series Analysis Using Strategic Motion Coherence	205
<i>Kanoksak Wattanachote, Yong Wang, Timothy K. Shih, Hui-Huang Hsu, and Wenyin Liu</i>	

Session 6: Distributed Systems and Internet Computing I

Web Service Flash Crowd Mitigation Using Feedback to Users	213
<i>Harumasa Tada, Masayuki Murata, and Masaki Aida</i>	
Construction and Maintenance of K-Hop CDS in Mobile Ad Hoc Networks	220
<i>Jiahong Wang, Eiichiro Kodama, and Toyoo Takata</i>	
EDWiN: Leveraging Device-to-Device Communications for Efficient Data Dissemination over Wi-Fi Networks	228
<i>Lyes Hamidouche, Sébastien Monnet, Frédéric Bardolle, Pierre Sens, and Dimitri Refauvelet</i>	
Hierarchical Small World Overlay for Efficient Forwarding in Volunteer Clouds	236
<i>Fatma Hrizi and Anis Laouiti</i>	

Middleware Adaptation through Process Mining	244
<i>Nelson Rosa</i>	

Query-Adaptive Online Partitioning of Associated Data for Efficient Retrieval	252
<i>Ting Zhang and Duc A. Tran</i>	

Session 7: Wireless Sensor Networks

On Full-View Area Coverage by Rotatable Cameras in Wireless Camera Sensor Networks	260
<i>Yang-Pu Hsiao, Kuei-Ping Shih, and Yen-Da Chen</i>	

Maximizing Surveillance Quality for Barrier Coverage in Rechargeable Sensor Networks	266
<i>Zaixiu Dong, Weimin Wen, Guilin Chen, Shenghui Zhao, and Chih-Yung Chang</i>	

A New Routing Protocol for Maximum Coverage in Square Field for Underwater WSNs	272
<i>Arslan Zahoor, Nadeem Javaid, Mariam Akbar, and Zahoor Ali Khan</i>	

Selection of Actor Nodes in Opportunistic Networks: A Fuzzy-Based Approach	278
<i>Miralda Cuka, Donald Elmazi, Kosuke Ozero, Tetsuya Oda, and Leonard Barolli</i>	

A New Flow Network Approach for Improving Clustering Protocols in Wireless Sensor Networks	285
<i>José Henrique Brandão Neto, Joaquim Celestino Júnior, and Leonardo Sampaio Rocha</i>	

MEES: Mobile Energy Efficient Square Routing for Underwater Wireless Sensor Networks	292
<i>Adnan Walayat, Nadeem Javaid, Mariam Akbar, and Zahoor Ali Khan</i>	

Session 8: Multimedia Systems and Applications II

Push Typed Tourist Information System Based on Beacon and Augmented Reality Technologies	298
<i>Goshi Sato, Go Hirakawa, and Yoshitaka Shibata</i>	

An Efficient Image Gathering Scheme with Quality Control in Disaster	304
<i>Jun Nishiyama, Saki Tabata, and Hiroshi Shigeno</i>	

A System to Retrieve Photographs Showing Designated Points	312
<i>Yuki Taniyama, Tomoki Yoshihisa, Takahiro Hara, and Shojiro Nishio</i>	

A Method for Personalized C Programming Learning Contents Recommendation to Enhance Traditional Instruction	320
<i>Yu Yan, Kohei Hara, Takenobu Kazuma, and Aiguo He</i>	

Image Completion Using Sample Synthesis	328
<i>Shwu-Huey Yen, Hsien-Yang Li, and Po-Yen Kuo</i>	

Ariadnima — Android Component Flow Reconstruction and Visualization	336
<i>Dennis Titze, Konrad Weiss, and Julian Schuette</i>	

Session 9: Distributed Systems and Internet Computing II

Multi-leader Election in a Clustered Graph for Distributed Network Control	342
<i>Hideki Shindo, Hideo Kobayashi, Genya Ishigaki, and Norihiko Shinomiya</i>	

On Making Generalized Paxos Practical	347
<i>Tuanir F. Rezende, Pierre Sutra, Rodrigo Q. Saramago, and Lasaro Camargos</i>	

Message Dissemination Using Levy Flight on Unit Disk Graphs	355
<i>Kenya Shinki, Masahiko Nishida, and Naohiro Hayashibara</i>	
Performance Evaluation of OS-Level Virtualization Solutions for HPC Purposes on SoC-Based Systems	363
<i>David Beserra, Manuele Kirsch Pinheiro, Carine Souveyet, Luiz Angelo Steffanel, and Edward David Moreno</i>	
Detecting and Tackling Run-Time Obstacles in Social Business Processes	371
<i>Zakaria Maamar, Mohamed Sellami, Noura Faci, and Sylvain Lefebvre</i>	
Parallel Search Processing of Tree-Structured Data in a Big Data Environment	379
<i>Lingxiao Li, David Taniar, and Maria Indrawan-Santiago</i>	
 Session 10: Next Generation Wireless Networks I	
Supernova and Hypernova Misbehavior Detection Scheme for Opportunistic Networks	387
<i>Sanjay K. Dhurandher, Arun Kumar, Isaac Woungang, and Mohammad S. Obaidat</i>	
A Study on Implementation of NDN to WSN	392
<i>Tetsuro Kuniyasu and Tetsuya Shigeyasu</i>	
Providing Collision-Free and Conflict-Free Communication in General Synchronous Broadcast/Receive Networks	399
<i>Abdelmadjid Bouabdallah, Hicham Lakhlef, Michel Raynal, and François Taïani</i>	
Monitoring Dynamic Mobile Ad-Hoc Networks: A Fully Distributed Hybrid Architecture	407
<i>Jose Alvarez, Stephane Maag, and Fatiha Zaïdi</i>	
Reducing Energy Consumption in Provisioning of Virtual Sensors by Similarity of Heterogenous Sensors	415
<i>Marcus Lemos, Carlos de Carvalho, Douglas Lopes, Ricardo Rabelo, and Raimir Holanda Filho</i>	
 Session 11: Pervasive and Ubiquitous Computing	
Acoustic Localization without Synchronization	423
<i>Jongtaek Jung, Kangho Kim, Woonghee Lee, and Hwangnam Kim</i>	
Tracking Indoor Activities of Patients with Mild Cognitive Impairment Using Motion Sensors	431
<i>Tsang Wai-Hung Nelson, Lam Kam-Yiu, Ng Kee-Yin Joseph, Han Song, and Papavasileiou Ioannis</i>	
Continuous de-Skyline Queries for Objects with Time-Varying Attribute in Road Networks	439
<i>Yuan-Ko Huang</i>	
Development of a Smart Floor for Target Localization with Bayesian Binary Sensing	447
<i>Gongjin Lan, Jinhao Liang, Guocheng Liu, and Qi Hao</i>	
Infrastructure Mode Based Opportunistic Networks on Android Devices	454
<i>Andre Ippisch and Kalman Graffi</i>	
A GA-Based Simulation System for WMNs: Performance Analysis for Different WMN Architectures Considering Exponential Distribution, HWMP and TCP Protocols	462
<i>Admir Barolli, Tetsuya Oda, Ryoichiro Obukata, Makoto Ikeda, Leonard Barolli, and Makoto Takizawa</i>	

Session 12: Network Services and Virtualization

Service Cost in Software Defined Networking (SDN)	468
<i>Murat Karakus and Arjan Durrezi</i>	
Usability of Composing REST Services on Smartphones	476
<i>Gebremariam Mesfin, Tor-Morten Grønli, Gheorghita Ghinea, and Muhammad Younas</i>	
Maestro: An NFV Orchestrator for Wireless Environments Aware of VNF Internal Compositions	484
<i>Ariel Galante Dalla-Costa, Lucas Bondan, Juliano Araujo Wickboldt, Cristiano Bonato Both, and Lisandro Zambenedetti Granville</i>	
Interactive Visualizations for Planning and Strategic Business Decisions in NFV-Enabled Networks	492
<i>Muriel Figueredo Franco, Ricardo Luis dos Santos, Ricardo Cava, Eder John Scheid, Ricardo José Pfitscher, Carla Dal Sasso Freitas, and Lisandro Zambenedetti Granville</i>	
iMPROVE: Enhancing the Introduction of Services on Programmable Virtual Networks	500
<i>Ricardo Luis dos Santos, Muriel Figueredo Franco, Eder John Scheid, Ricardo José Pfitscher, Lisandro Zambenedetti Granville, and Liane M. Rockenbach Tarouco</i>	
An Analytical Framework for Throughput Analysis of Real Time Applications in All-IP Networks	508
<i>Shankar K. Ghosh and Sasthi C. Ghosh</i>	

Session 13: Next Generation Wireless Networks II

Residual Size-Based Mobile Data Offloading for File Transmission on Mobile Devices	516
<i>Tsung-Hui Chuang, Pei-Hua Su, and Meng-Hsun Tsai</i>	
Bandwidth Efficient Clock Skew Compensation in TDMA-Based Star Topology Wireless Networks	522
<i>Ashutosh Bhatia and Sudhanshu Singh</i>	
An Underwater Routing Protocol with Void Detection and Bypassing Capability	530
<i>Seyed Mohammad Ghoreyshi, Alireza Shahrabi, and Tuleen Boutaleb</i>	
Saving Resources in Discovery Protocol on Delay-Sensitive Rescue Mobile Networks	538
<i>Janine Kniess, Luciana Arantes, Pierre Sens, and Célio V. N. Albuquerque</i>	
Adaptive Load-Balancing Scheme through Wireless SDN-Based Association Control	546
<i>Chia-Ying Lin, Wan-Ping Tsai, Meng-Hsun Tsai, and Yun-Zhan Cai</i>	
A Novel Multi-Step Opportunistic Scheduling Scheme for Streaming Applications over OFDMA Wireless Systems	554
<i>Hassen Hamouda, Mohamed Ouwaïs Kabaou, and Mohamed Salim Bouhleb</i>	

Session 14: Distributed Database and Data Mining

CODE+: Building Common Ontology from Community Knowledge	562
<i>Dhomas Hatta Fudholi, Wenny Rahayu, and Eric Pardede</i>	
Jointly Modeling Multi-grain Aspects and Opinions for Large-Scale Online Review	570
<i>Yang Zhang, Feilong Tang, Leonard Barolli, Yanqin Yang, and Wenchao Xu</i>	

A Compact-Trie-Based Structure for K-Nearest-Neighbour Searching	578
<i>Peng Gong and Wendy Osborn</i>	
Searching Data Cube for Submerging and Emerging Cuboids	586
<i>Viet Phan-Luong</i>	
Optimizing Diverse Group Stock Portfolio without Setting a Number of Groups	594
<i>Chun-Hao Chen, Jonathan Coupe, and Tzung-Pei Hong</i>	
Realtime Online Hot Topics Prediction in Sina Weibo for News Earlier Report	599
<i>Sha Yuan, Zhe Tao, Tingshao Zhu, and Shuotian Bai</i>	

Session 15: Grid, P2P and Scalable Computing

Utilization Based Secured Dynamic Scheduling Algorithm for Real-Time Applications on Grid (U-SDSA)	606
<i>Surendra Singh, Sachin Tripathi, and Suvadip Batabyal</i>	
A Distributed Calculation Scheme for Contents Categorization	614
<i>Masaki Kohana, Hiroki Sakaji, Akio Kobayashi, and Shusuke Okamoto</i>	
CapSearch: Capacity-Based Search in Highly Dynamic Peer-to-Peer Networks	621
<i>Andreas Disterhöft and Kalman Graffi</i>	
Evaluation of Protocols to Prevent Illegal Information Flow in Peer-to-Peer Publish/Subscribe Systems	631
<i>Shigenari Nakamura, Lidia Ogiela, Tomoya Enokido, and Makoto Takizawa</i>	
A Fuzzy-Based System for Qualified Voting in P2P Mobile Collaborative Team: Effects of Member Activity Failure	639
<i>Yi Liu, Shinji Sakamoto, Leonard Barolli, and Makoto Ikeda</i>	

Session 16: Next Generation Wireless Networks III

Combined Power Control and Partially Overlapping Channel Assignment for Interference Mitigation in Dense WLAN	646
<i>Babul P. Tewari and Sasthi C. Ghosh</i>	
SONA: Software Defined Optical Networks Slicing Architecture	654
<i>Tiago Portela de Souza, Jefferson Rodrigo A. Cavalcante, Ahmed Patel, Maxwell Eduardo Monteiro, and Joaquim Celestino Junior</i>	
Braided on Demand Multipath RPL in the Mobility Context	662
<i>Fatma Soma, Ines El Korbi, and Leila Azouz Saidane</i>	
EA-PRoPHET: An Energy Aware PRoPHET-Based Routing Protocol for Delay Tolerant Networks	670
<i>Bhed Bahadur Bista and Danda B. Rawat</i>	
Empowering Drones' Teamwork with Airborne Network	678
<i>Seungho Yoo, Jongtaek Jung, Albert Y. Chung, Kangho Kim, Jiyeon Lee, Seongjoon Park, Suk Kyu Lee, Hyung Kyu Lee, and Hwangnam Kim</i>	
SAMAR — Spectrum Aware token MAc for Cognitive Radio Networks	686
<i>Battula Ramesh Babu, Avinash Reddy Avuthu, and S Venkata Narayana</i>	

Session 17: Intelligent and Semantic Computing

Performance Analysis by WMN-GA Simulation System for Different WMN Architectures Considering Exponential Distribution, Different Transmission Rates and OLSR Protocol	692
<i>Keita Matsuo, Tetsuya Oda, Ryoichiro Obukata, Masafumi Yamada, and Leonard Barolli</i>	
Implementation of an Intelligent Hybrid Simulation System for Node Placement Problem in WMNs Considering Particle Swarm Optimization and Simulated Annealing	697
<i>Shinji Sakamoto, Ryoichiro Obukata, Tetsuya Oda, Leonard Barolli, and Makoto Ikeda</i>	
Cluster-than-Label: Semi-Supervised Approach for Domain Adaptation	704
<i>Santosh Kumar, Xiaoying Gao, and Ian Welch</i>	
A Reuse-Based Approach to Promote the Adoption of Visualizations for Network Management Tasks	712
<i>Vinícius Tavares Guimarães, Oscar Mauricio Caicedo Rendon, Gléderson Lessa dos Santos, Guilherme da Cunha Rodrigues, Carla Maria Dal Sasso Freitas, Liane Margarida Rockenbach Tarouco, and Lisandro Zambenedetti Granville</i>	
Refining Visual Activity Recognition with Semantic Reasoning	720
<i>Nathan Ramoly, Vincent Vassout, Amel Bouzeghoub, Mounim A. El Yacoubi, and Mossaab Hariz</i>	

Session 18: VANETs and WSNs Applications

Data Exchange Strategies for Aggregating Geographical Distribution of Demands for Location-Dependent Information Using Soft-State Sketches in VANETs	728
<i>Akihiro Yamada and Susumu Ishihara</i>	
In-vehicle Cloudlet Computing System for Disaster Information Based on Delay Tolerant Network Protocol	737
<i>Masaki Otomo, Goshi Sato, and Yoshitaka Shibata</i>	
Performance Evaluation of Delayed ACK Method for Message Suppression in VANETs	743
<i>Daichi Koga, Makoto Ikeda, and Leonard Barolli</i>	
Performance Optimization in Wireless Sensor Networks: A Novel Collaborative Compressed Sensing Approach	749
<i>Muzammil Behzad and Yao Ge</i>	
Performance Analysis of Sensor Fusion Models for Brake Pedal in a Brake-by-Wire System	757
<i>Minsu Jo, Youngmi Baek, Ki-Dong-Kang, Seonghun Lee, and Sang Hyuk Son</i>	

Session 19: Security and Privacy I

LLR-Based Sentiment Analysis for Kernel Event Sequences	764
<i>Robert Luh, Sebastian Schrittwieser, and Stefan Marschalek</i>	
K-Aggregation: Improving Accuracy for Differential Privacy Synthetic Dataset by Utilizing K-Anonymity Algorithm	772
<i>Bo-Chen Tai, Szu-Chuang Li, and Yennun Huang</i>	
An Efficient Blacklistable Anonymous Credentials without TTPs Using Pairing-Based Accumulator	780
<i>Yuu Aikou, Shahidatul Sadiah, and Toru Nakanishi</i>	

Malicious Apps May Explore a Smartphone's Vulnerability to Detect One's Activities	787
<i>Xi Lu and Shou-Hsuan Stephen Huang</i>	
Fully Secure Lattice-Based Group Signatures with Verifier-Local Revocation	795
<i>M. Nisansala, S. Perera, and Takeshi Koshihba</i>	
A Proposal of a Secure P2P-Type Storage Scheme by Using the Secret Sharing and the Blockchain	803
<i>Masayuki Fukumitsu, Shingo Hasegawa, Junya Iwazaki, Masao Sakai, and Daiki Takahashi</i>	

Session 20: Cloud, Data Centers and Services Computing I

Secure Deduplication in a Multiple Group Signature Setting	811
<i>Ei Mon Cho and Takeshi Koshihba</i>	
Smart Partitioning Mechanism for Dealing with Intermediate Data Skew in Reduce Task on Cloud Computing	819
<i>Tzu-Chi Huang, Kuo-Chih Chu, Guo-Hao Huang, Yan-Chen Shen, and Ce-Kuen Shieh</i>	
Scheduling of Parallel Migration for Multiple Virtual Machines	827
<i>Koichi Onoue, Satoshi Imai, and Naoki Matsuoka</i>	
Scheduling-Aware Data Prefetching for Data Processing Services in Cloud	835
<i>Chien-Hung Chen, Ting-Yuan Hsia, Yennun Huang, and Sy-Yen Kuo</i>	
Service Scheduling Scheme Based Load Balancing for 5G/HetNets Cloud RAN	843
<i>Olfa Chabbouh, Sonia Ben Rejeb, Nazim Agoulmine, and Zied Choukair</i>	
Quality of Service Scheme for Intra/Inter-Data Center Communications	850
<i>Mamun Abu-Tair, Md Israfil Biswas, Philip Morrow, Sally McClean, Bryan Scotney, and Gerard Parr</i>	

Session 21: Internet of Things and Social Networking I

A Smart Micro-Grid Architecture for Resource Constrained Environments	857
<i>Anne V. D. M. Kayem, Christoph Meinel, and Stephen D. Wolthusen</i>	
Effect of Node Density on Actor Selection in WSANs: A Comparison Study for Two Fuzzy-Based Systems	865
<i>Donald Elmazi, Miralda Cuka, Tetsuya Oda, Makoto Ikeda, and Leonard Barolli</i>	
Exploiting Evolving Trust Relationships in the Modelling of Opinion Formation Dynamics in Online Social Networks	872
<i>Rajkumar Das, Joarder Kamruzzaman, and Gour Karmakar</i>	
ALPAS: Analog-PIR-Sensor-Based Activity Recognition System in Smarthome	880
<i>Yukitoshi Kashimoto, Masashi Fujiwara, Manato Fujimoto, Hirohiko Suwa, Yutaka Arakawa, and Keiichi Yasumoto</i>	
Information Gain Based Maximum Task Matching in Spatial Crowdsourcing	886
<i>Jiantong Zhang, Feilong Tang, Leonard Barolli, Yanqin Yang, and Wenchao Xu</i>	
Fog Computing as a Resource-Aware Enhancement for Vicinal Mobile Mesh Social Networking	894
<i>Chii Chang, Mohan Liyanage, Sander Soo, and Satish Narayana Srirama</i>	

Session 22: Security and Privacy II

Performance Analysis of Sorting of FHE Data: Integer-Wise Comparison vs Bit-Wise Comparison	902
<i>Harika Narumanchi, Dishant Goyal, Nitesh Emmadi, and Praveen Gauravaram</i>	
Enhancing Security Attacks Analysis Using Regularized Machine Learning Techniques	909
<i>Desta Haileselassie Hagos, Anis Yazidi, Øivind Kure, and Paal E. Engelstad</i>	
Mitigating Use-After-Free Attack with Application Program Loader	919
<i>Takamichi Saito, Shuta Kondo, Hiroyuki Miyazaki, Wang Bing, Ryohei Watanabe, Ryota Sugawara, and Masateru Yokoyama</i>	
The 12th-Order Differential Attack on the 10-Round Variants of Midori64 Block Cipher	925
<i>Yusuke Takahashi, Yasutaka Igarashi, and Toshinobu Kaneko</i>	
Towards Continuous Security Certification of Software-as-a-Service Applications Using Web Application Testing Techniques	931
<i>Philipp Stephanow and Koosha Khajehmoogahi</i>	
Securing the Internet of Things: A Worst-Case Analysis of Trade-Off between Query-Anonymity and Communication-Cost	939
<i>Kadhim Hayawi, Pin-Han Ho, Sujith Samuel Mathew, and Limei Peng</i>	

Session 23: Cloud, Data Centers and Services Computing II

Time and Bandwidth-Aware Virtual Network Embedding and Migration in Hybrid Optical-Electrical Data Centers	947
<i>Lekha Purushothaman, Tram Truong-Huu, and Mohan Gurusamy</i>	
Performance Overhead Comparison between Hypervisor and Container Based Virtualization	955
<i>Zheng Li, Maria Kihl, Qinghua Lu, and Jens A. Andersson</i>	
Cost Efficient Batch Processing in Amazon Cloud with Deadline Awareness	963
<i>Kabin Tamrakar, Anis Yazidi, and Hårek Haugerud</i>	
Car Pooling Based on Trajectories of Drivers and Requirements of Passengers	972
<i>Fu-Shiung Hsieh</i>	
Implementation of Lambda Architecture: A Restaurant Recommender System over Apache Mesos	979
<i>Chung-Ho Lee and Chi-Yi Lin</i>	
A Process Model to Support Continuous Certification of Cloud Services	986
<i>Immanuel Kunz and Philipp Stephanow</i>	

Session 24: Internet of Things and Social Networking II

Engineering Democratization in Internet of Things Data Analytics	994
<i>Evangelos Pournaras, Jovan Nikolic, Alex Omerzel, and Dirk Helbing</i>	
Sensing and Mining Urban Qualities in Smart Cities	1004
<i>Danielle Griego, Varin Buff, Eric Hayoz, Izabela Moise, and Evangelos Pournaras</i>	

Mining Opinion Leaders in Big Social Network	1012
<i>Yi-Cheng Chen, Yi-Hsiang Chen, Chia-Hao Hsu, Hao-Jun You, Jianquan Liu, and Xin Huang</i>	
Performance Evaluation of Mahout Clustering Algorithms Using a Twitter Streaming Dataset	1019
<i>Fatos Xhafa, Adriana Bogza, and Santi Caballé</i>	
An IoT-Aware Architecture for Smart Healthcare Coaching Systems	1027
<i>Akba Amato and Antonio Coronato</i>	
An Optimized Priority Enabled Energy Management System for Smart Homes	1035
<i>Samia Shah, Rabiya Khalid, Ayesha Zafar, Sardar Mehboob Hussain, Hassan Rahim, and Nadeem Javaid</i>	

Session 25: Security and Privacy III

Privacy-Preserving Multiple Linear Regression of Vertically Partitioned Real Medical Datasets	1042
<i>Hiroaki Kikuchi, Chika Hamanaga, Hideo Yasunaga, Hiroki Matsui, and Hideki Hashimoto</i>	
Cognitive Keys in Personalized Cryptography	1050
<i>Marek R. Ogiela and Lidia Ogiela</i>	
An MFCC-Based Speaker Identification System	1055
<i>Fang-Yie Leu and Guan-Liang Lin</i>	
Access Control for Plugins in Cordova-Based Hybrid Applications	1063
<i>Naoki Kudo, Toshihiro Yamauchi, and Thomas H. Austin</i>	
A Privacy-Reserved Approach for Message Forwarding in Opportunistic Networks	1070
<i>Xiaojie Wang, Lei Wang, and Zhaolong Ning</i>	
Safety and Standardization of Data Sharing Techniques and Protocols for Management of Strategic Data	1076
<i>Lidia Ogiela, Marek R. Ogiela, and Makoto Takizawa</i>	

Session 26: Cloud, Data Centers and Services Computing III

From Event to Evidence: An Approach for Multi-tenant Cloud Services' Accountability	1082
<i>Fatma Masmoudi, Mohamed Sellami, Monia Loulou, and Ahmed Hadj Kacem</i>	
Starvation Avoidance with Deadline Constraints in Hadoop Environments	1090
<i>Alexandru-Ciprian Fărcășanu, Florin Pop, Mihaela-Cătălina Niță, and Ciprian Dobre</i>	
An Eco Migration of Virtual Machines in a Server Cluster	1098
<i>Dilawaer Duolikun, Ryo Watanabe, Tomoya Enokido, and Makoto Takizawa</i>	
An Efficient Sampling and Classification Approach for Flow Detection in SDN-Based Big Data Centers	1106
<i>Feilong Tang, Lu Li, Leonard Barolli, and Can Tang</i>	
Unit and Integration Testing of Modular Cloud Services	1116
<i>Stelios Sotiriadis, Andrus Lehmetz, Euripides G. M. Petrakis, and Nik Bessis</i>	
Analysing Cloud Services Reviews Using Opining Mining	1124
<i>Asma Musabah Alkalbani, Lekhaben Gadhvi, Bhaumik Patel, Farookh Khadeer Hussain, Ahmed Mohamed Ghamry, and Omar Khadeer Hussain</i>	

Session 27: Autonomic and Trustworthy Computing

Data-Driven Approach for Evaluating Risk of Disclosure and Utility in Differentially Private Data Release	1130
<i>Kang-Cheng Chen, Chia-Mu Yu, Bo-Chen Tai, Szu-Chuang Li, Yao-Tung Tsou, Yennun Huang, and Chia-Ming Lin</i>	
FEAST: An Automated Feature Selection Framework for Compilation Tasks	1138
<i>Pai-Shun Ting, Chun-Chen Tu, Pin-Yu Chen, Ya-Yun Lo, and Shin-Ming Cheng</i>	
A Trust Management Framework for Cloud Computing Platforms	1146
<i>Yefeng Ruan and Arjan Durrresi</i>	
Adaptive Risk Management Framework for Cloud Computing	1154
<i>Manel Medhioub, Mohamed Hamdi, and Tai-Hoon Kim</i>	
A Trustworthiness-Based Ad-Hoc Routing Protocol in Wireless Networks	1162
<i>Emi Ogawa, Shigenari Nakamura, and Makoto Takizawa</i>	
A Trust Based Distributed Intrusion Detection Mechanism for Internet of Things	1169
<i>Zeeshan Ali Khan and Peter Herrmann</i>	

Author Index