

2017 31st International Conference on Advanced Information Networking and Applications Workshops (WAINA 2017)

**Taipei, Taiwan
27 – 29 March 2017**



**IEEE Catalog Number: CFP1781D-POD
ISBN: 978-1-5090-6232-4**

**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:	CFP1781D-POD
ISBN (Print-On-Demand):	978-1-5090-6232-4
ISBN (Online):	978-1-5090-6231-7

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 31st International Conference on Advanced Information Networking and Applications Workshops

WAINA 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
Welcome Message from the FINA 2017 Symposium	
Co-Chairs.....	xxi
FINA 2017 Organizing Committee.....	xxii
FINA 2017 Reviewers.....	xxiii
Welcome Message from the HWISE 2017 Workshop	
Co-Chairs.....	xxiv
HWISE 2017 Organizing Committee.....	xxv
HWISE 2017 Reviewers.....	xxvi
Welcome Message from the BICom 2017 Workshop	
Co-Chairs.....	xxvii
BICom 2017 Organizing Committee.....	xxviii
BICom 2017 Reviewers.....	xxix
Welcome Message from the COLLABES 2017 Workshop	
Organizers.....	xxx
COLLABES 2017 Organizing Committee.....	xxxi
COLLABES 2017 Reviewers.....	xxxii
Welcome Message from the DC2 2017 Workshop	
Co-Chairs.....	xxxiii
DC2 2017 Organizing Committee.....	xxxiv
DC2 2017 Reviewers.....	xxxv
Welcome Message from the NetMM 2017 Workshop Chair.....	xxxvi
NetMM 2017 Organizing Committee.....	xxxvii

NetMM 2017 Reviewers.....	xxxviii
Welcome Message from the ITIS 2017 Workshop	
Co-Chairs.....	xxxix
ITIS 2017 Organizing Committee.....	xl
ITIS 2017 Reviewers.....	xli
Welcome Message from the TeNAS 2017 Workshop	
Organizers.....	xlii
TeNAS 2017 Organizing Committee.....	xliii
TeNAS 2017 Reviewers.....	xliv
Welcome Message from the MAW 2017 Symposium	
Organizers.....	xliv
MAW 2017 Organizing Committee.....	xlvi
MAW 2017 Reviewers.....	xlvii
Welcome Message from the WITIN 2017 Workshop	
Organizers.....	xlviii
WITIN 2017 Organizing Committee.....	xlix
WITIN 2017 and Reviewers.....	l
Welcome Message from the IWDENS 2017 Workshop	
Organizers.....	li
IWDENS 2017 Organizing Committee.....	lii
IWDENS 2017 Reviewers.....	liii
Welcome Message from the BOSON 2017 Workshop	
Organizers.....	liv
BOSON 2017 Organizing Committee.....	lv
BOSON 2017 Reviewers.....	lvi
Welcome Message from the PAEWN 2017 Workshop	
Co-Chairs.....	lvii
PAEWN 2017 Organizing Committee.....	lviii
PAEWN 2017 Reviewers.....	lix

The 13th International Symposium on Frontiers of Information Systems
and Network Applications (FINA-2017)

Session 1: Secure Systems and Networks

Integrate Stepping-Stone Intrusion Detection Technique into Cybersecurity Curriculum	1
<i>Jianhua Yang, Yongzhong Zhang, and Guoqing Zhao</i>	
Securing OppNets from Packet Integrity Attacks Using Trust and Reputation	7
<i>Asma'a Ahmad, Robin Doss, Majeed Alajeely, and Khlood Ahmad</i>	

Improvement of Communication Traffic and Security of Proactive Secret Sharing Schemes and Combination Proactive Secret Sharing Scheme with an Asymmetric Secret Sharing Scheme	13
<i>Naoto Kaneko and Keiichi Iwamura</i>	
An Efficient and Secure User Authentication Scheme with Anonymity in Global Mobility Networks	19
<i>R. Madhusudhan and K. S. Suvitha</i>	
Session 2: Wireless Networks and Mobile Systems	
Low Complexity Variable Leaky Normalised Orthogonal Gradient Adaptive Algorithm	25
<i>Suchada Sitjongsatporn and Piyaporn Nurarak</i>	
A Two-Stage Codebook Design Based on Beam Perturbation for Massive MIMO Systems	29
<i>Jiangwei Yuan, Xiaohui Li, Wenjuan Pu, and Ruiyang Yuan</i>	
ECU Software Updating in Future Vehicle Networks	35
<i>Yutaka Onuma, Yoshiaki Terashima, and Ryozo Kiyohara</i>	
Background Radiation Effect on Ground Sensor-to-UAV Free-Space Optical Link With Inexpensive Laser	41
<i>Weilian Su and Tri Ha</i>	
A Performant Funnel Based Mobile Service Discovery and Exposure Model	44
<i>Walid El Ayeb and Zied Choukair</i>	
Session 3: Security and Privacy	
Inject Stenography into Cybersecurity Education	50
<i>Dianyuan Han, Jianhua Yang, and Wayne Summers</i>	
Security Evaluation on Secret Computation without Changing the Polynomial Degree	56
<i>Ken Aoi, Takeshi Shingu, and Keiichi Iwamura</i>	
An Anonymous Authentication Protocol for Smart Grid	62
<i>Hikaru Kishimoto, Naoto Yanai, and Shingo Okamura</i>	
Model-Based Attack Tolerance	68
<i>Georges Ouffoué, Fatiha Zaïdi, Ana R. Cavalli, and Mounir Lallali</i>	
Security Oriented Malicious Activity Diagrams to Support Information Systems Security	74
<i>Othmar O. Mwambe and Isao Echizen</i>	
Session 4: Network Systems and Applications	
Study of the Patterns of Automatic Car Washing in the Era of Internet of Things	82
<i>Shigen Zhong, Liangjie Zhang, Hsing-Chung Chen, Huan Zhao, and Ling Guo</i>	
Adaptation of Information Retrieval Methods for Identifying of Destructive Informational Influence in Social Networks	87
<i>Elena Okhapkina, Valentin Okhapkin, and Oleg Kazarin</i>	
A Trust Management Framework for Network Applications within an SDN Environment	93
<i>Aliyu Lawal Aliyu, Peter Bull, and Ali Abdallah</i>	

A Survey on Sharing Economy and Its Effect on Human Behavior Changes	99
<i>Moloud Abdar and Neil. Y. Yen</i>	
Building a Social MANET Based on an SNS Community Token	104
<i>Koichi Hirai and Kazumasa Takami</i>	
Ethical Hacking and Network Defense: Choose Your Best Network Vulnerability Scanning Tool	110
<i>Yien Wang and Jianhua Yang</i>	

Session 5: Multimedia Systems and Web Applications

Graph-Based Semantic Segmentation for 3D Digital Images	114
<i>Dumitru Dan Burdescu, Marius Brezovan, Liana Stănescu, Cosmin Stoica Spahiu, and Daniel Costin Ebâncă</i>	
An Alternative Method of Pattern Recognition and Tracking of Moving Objects Using 3D Depth Sensors	120
<i>Ningping Sun and Ryosuke Okumura</i>	
New Approaches to Human Gait Simulation Using Motion Sensors	126
<i>Ningping Sun and Yuya Sakai</i>	
An Enhanced Differential Evolution Based Energy Management System for Smart Grids	132
<i>Naveed Ur Rehman, Nadeem Javaid, and Zahoor Ali Khan</i>	

Session 6: Scalable and High Performance Computing

Algorithms to Energy-Efficiently Select a Server for a General Process in a Scalable Cluster	138
<i>Atsuhiko Sawada, Shigenari Nakamura, Hiroki Kataoka, Tomoya Enokido, and Makoto Takizawa</i>	
Simple Energy-Aware Algorithms for Selecting a Server in a Scalable Cluster	146
<i>Hiroki Kataoka, Shigenari Nakamura, Tomoya Enokido, and Makoto Takizawa</i>	
A Comprehensive Analysis on Data Hazard for RISC32 5-Stage Pipeline Processor	154
<i>Wei Pau Kiat, Kai Ming Mok, Wai Kong Lee, Hock Guan Goh, and Ivan Andonovic</i>	
Fair Adaptive Resource Allocation Scheme for an OpenFlow-Based Virtual Network	160
<i>Nihed Bahria El Asghar and Mounir Frikha</i>	
Fault Tolerance in a Cloud of Databases Environment	166
<i>Syrine Chatti and Habib Ounelli</i>	
Merging Topic Groups of a Publish/Subscribe System in Causal Order	172
<i>Yuta Yamamoto and Naohiro Hayashibara</i>	

The 13th International Workshop on Heterogeneous Wireless Networks (HWISE-2017)

Session 1: Mobile and Wireless Communication Systems

Context Aware Cell Selection in Heterogenous Radio Access Environment	178
<i>Masafumi Katoh, Yoshiharu Tajima, Hiroaki Senoo, and Dai Kimura</i>	

Cloud RAN Architecture Model Based upon Flexible RAN Functionalities Split for 5G Networks	184
<i>Olfa Chabbouh, Sonia Ben Rejeb, Nazim Agoulmine, and Zied Choukair</i>	
Dijkstra-Algorithm Based Ray-Tracing by Controlling Proximity Node Mapping	189
<i>Kazunori Uchida and Leonard Barolli</i>	
Design and Implementation of a Simulation System Based on Deep Q-Network for Mobile Actor Node Control in Wireless Sensor and Actor Networks	195
<i>Tetsuya Oda, Ryoichiro Obukata, Makoto Ikeda, Leonard Barolli, and Makoto Takizawa</i>	
An Integrated Intelligent System for IoT Device Selection and Placement in Opportunistic Networks Using Fuzzy Logic and Genetic Algorithm	201
<i>Miralda Cuka, Donald Elmazi, Ryoichiro Obukata, Kesuke Ozera, Tetsuya Oda, and Leonard Barolli</i>	

Session 2: VANETs and Wireless Sensor Networks

Towards Safer Roads through Cooperative Hazard Awareness and Avoidance in Connected Vehicles	208
<i>Fatma Outay, Faouzi Kammoun, Florent Kaisser, and Mohamed Atiquzzaman</i>	
SVC-Based Cooperative Video Streaming in Highway Vehicular Networks	216
<i>Ruijian An, Zhi Liu, and Yusheng Ji</i>	
Performance Evaluation of the Optimized Weighted Clustering Algorithm in Wireless Sensor Networks	222
<i>Fatma Belabed and Ridha Bouallegue</i>	
Energy Efficient Data Collection Scheme in Mobile Wireless Sensor Networks	226
<i>Weimin Wen, Zaixiu Dong, Guilin Chen, Shenghui Zhao, and Chih-Yung Chang</i>	
A Balanced Energy Consuming and Hole Alleviating Algorithm for Wireless Sensor Networks	231
<i>Naeem Jan, Ahmad Raza Hameed, Babar Ali, Rahim Ullah, Kaleem Ullah, and Nadeem Javaid</i>	

The 10th International Workshop on Bio and Intelligent Computing (BICoM-2017)

Session 1: Intelligent Algorithms

Application of Deep Recurrent Neural Networks for Prediction of User Behavior in Tor Networks	238
<i>Taro Ishitaki, Ryoichiro Obukata, Tetsuya Oda, and Leonard Barolli</i>	
A Meta-Heuristic Home Energy Management System	244
<i>Ayesha Zafar, Samia Shah, Rabiya Khalid, Sardar Mehboob Hussain, Hassan Rahim, and Nadeem Javaid</i>	
A Fuzzy Approach for Secure Clustering in MANETs: Effects of Distance Parameter on System Performance	251
<i>Kosuke Ozera, Takaaki Inaba, Donald Elmazi, Shinji Sakamoto, Tetsuya Oda, and Leonard Barolli</i>	
Apply Deep Learning Neural Network to Forecast Number of Tourists	259
<i>Yu-Wei Chang and Chih-Yung Tsai</i>	

Session 2: Intelligent Computing Systems

Performance Evaluation of an IoT-Based E-Learning Testbed Using Mean-Shift Clustering Approach Considering Delta Type of Brain Waves	265
<i>Masafumi Yamada, Miralda Cuka, Yi Liu, Tetsuya Oda, Keita Matsuo, and Leonard Barolli</i>	
Performance Evaluation of an AML Testbed for Improving QoL: Evaluation Using Clustering Approach Considering Distributed Concurrent Processing	271
<i>Ryoichiro Obukata, Miralda Cuka, Donald Elmazi, Shinji Sakamoto, Tetsuya Oda, and Leonard Barolli</i>	
Evaluation of Spatial Trees for the Simulation of Biological Tissue	276
<i>Ilya Dmitrenok, Viktor Drobnyy, Leonard Johard, and Manuel Mazzara</i>	
A Novel Pricing Mechanism for Demand Side Load Management in Smart Grid	283
<i>Muhammad Babar Rasheed, Nadeem Javaid, Muhammad Awais, Mariam Akbar, and Zahoor Ali Khan</i>	

The 5th International Workshop on Collaborative Enterprise Systems (COLLABES-2017)

Session 1: Smart Environments and Information Systems

Experimental Evaluation of a Fast Demand Response System for Small/Medium-Scale Office Buildings	291
<i>Toshihiro Mega, Shinji Kitagami, Shigenori Kawawaki, and Noriyuki Kushiro</i>	
Load Experiment of the Cloud Type Virtual Policy Based Network Management Scheme for the Common Use between Plural Organizations	296
<i>Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii, and Makoto Takizawa</i>	
Microservice-Based IoT for Smart Buildings	302
<i>Kevin Khanda, Dilshat Salikhov, Kamill Gusmanov, Manuel Mazzara, and Nikolaos Mavridis</i>	
Group Detection Based on User-to-User Distance in Everyday Life for Office Lunch Group Recommendation	309
<i>Ryota Koshiba, Yuko Hirabe, Manato Fujimoto, Hirohiko Suwa, Yutaka Arakawa, and Keiichi Yasumoto</i>	
Developing Control and Monitor System with Recording of Operational Expense of Electrical Devices	315
<i>Siti Sendari, Heru Wahyu Herwanto, Yuni Rahmawati, Dendi Mukti Putranto, Fauzy Satrio Wibowo, Indriyani Rachman, and Matsumoto Toru</i>	

Session 2: Collaborative and Secure Systems

Enterprise Digital Rights Management for Document Protection	321
<i>Rajidi Satish Chandra Reddy and Srinivas Reddy Gopu</i>	
Topic-Based Selective Delivery of Event Messages in Peer-to-Peer Model of Publish/Subscribe Systems in Heterogeneous Networks	327
<i>Hiroki Nakayama, Emi Ogawa, Shigenari Nakamura, Tomoya Enokido, and Makoto Takizawa</i>	

Effective Content Management Technique Based on Cooperation Cache among Neighboring Routers in Content-Centric Networking	335
<i>Miho Aoki and Tetsuya Shigeyasu</i>	
Deep Learning Analysis of Amodal Completion CAPTCHA with Colors and Hidden Positions	341
<i>Tomoka Azakami and Ryuya Uda</i>	

The 4th International Workshop on Device Centric Cloud (DC2-2017)

Session 1: IoT and Cloud

DNSNAv4: DNS Name Autoconfiguration for Internet-of-Things Devices in IPv4 Networks	347
<i>Keuntae Lee, Seokhwa Kim, and Jaehoon (Paul) Jeong</i>	
Architecture for Automatic Generation of User Interaction Guides with Intelligent Assistant	352
<i>Inchul Hwang, Jinhe Jung, Jaedeok Kim, Youngbin Shin, and Jeong-Su Seol</i>	
OCF: A New Open IoT Consortium	356
<i>Soohong Park</i>	

Session 2: Vehicular Networks and Security

TOMS: TCP Context Migration Scheme for Efficient Data Services in Vehicular Networks	360
<i>Junsik Jeong, Yiwen (Chris) Shen, Jaehoon (Paul) Jeongz, Tae (Tom) Ohx, Junghyun Jun, and Sang Hyuk Son</i>	
Design and Implementation of Vehicular Network Simulator for Data Forwarding Scheme Evaluation	365
<i>Bien Aime Mugabarigira, Yiwen (Chris) Shen, Jaehoon (Paul) Jeong, Tae (Tom) Oh, and Sang Hyuk Son</i>	
An Assistive System for Android Malware Analysis to Increase Malware Analysis Efficiency	370
<i>Suyash Jadhav, Tae (Tom) Oh, Jaehoon (Paul) Jeong, Young Ho Kim, and Jeong Neyo Kim</i>	
Design of a Secure Digital Recording Protection System with Network Connected Devices	375
<i>Hyoungshick Kim</i>	

The 5th International Workshop on Network Management and Monitoring (NetMM-2017)

Session 1: Network Monitoring and Management

MRSIM: Mitigating Reducer Skew In MapReduce	379
<i>Lei Chen, Wei Lu, Xiaoping Che, Weiwei Xing, Liqiang Wang, and Yong Yang</i>	
Application-Aware Realtime Monitoring with Data Visualization in OpenFlow-Based Network	385
<i>Yun-Zhan Cai, Chia-Ying Lin, and Meng-Hsun Tsai</i>	
Performance Implication and Analysis of the OpenFlow SDN Protocol	391
<i>Aliyu Lawal Aliyu, Peter Bull, and Ali Abdallah</i>	
A Software Measurement Framework Guided by Support Vector Machines	397
<i>Sarah A. Dahab, Stephane Maag, and Xiaoping Che</i>	

Toward a Flexible and Scalable Monitoring Framework in Software-Defined Networks	403
<i>Xuan Thien Phan and Kensuke Fukuda</i>	
The Regressive QoE Model for VoLTE	409
<i>Ching-Fang Yang</i>	

The 10th International Workshop on Information Technology for Innovative Services (ITIS-2017)

Session 1: Information Sciences and Arts

Performance Evaluations of LXC Based Educational Cloud in a Bare Metal Server	415
<i>Minoru Uehara</i>	
An Adaptive DTN Routing Protocol Considering Replication State	421
<i>Yoshishige Kuronuma, Hiroyuki Suzuki, and Akio Koyama</i>	
Energy-Aware Volunteer Computing Using Solar Photovoltaics and Older Models of Single Board Computers	427
<i>Motoi Yamagiwa and Minoru Uehara</i>	
Dependable Small World Network Architectures	433
<i>Hideki Mori and Minoru Uehara</i>	

Session 2: Psycho-Informatics and Sports Informatics

An Evaluation of Psychological-Competitive Ability for Rugby Players Using the Analytic Hierarchy Process	438
<i>Koichiro Aoki, Minoru Uehara, Chieko Kato, and Hiroyuki Hirahara</i>	
Design of a Sports Mental Cloud	443
<i>Xu Gao and Minoru Uehara</i>	
Research on Giant Isopod Concerning the Importance of Biodiversity and Its Publicity by Using ICT	449
<i>Azusa Ono, Terutoshi Tada, and Hiroyuki Kose</i>	
Relationship between a Rugby Player's Personality, Length of Experience and Personality and Position	455
<i>Natsumi Yamagata, Yoshinori Watanuki, Koichiro Aoki, and Chieko Kato</i>	

The 11th International Workshop on Telecommunication Networking, Applications and Systems (TeNAS-2017)

Session 1: Networks, Infrastructure and Billing

Space Time Block Codes Finite Feedback Schemes for Power-Line Communications	461
<i>Shu-Ming Tseng and Chun-Chieh Chen</i>	
A Dynamic Reward Model Using SDP-Based Mechanism	467
<i>Wan Hsun Hu, Ying-Che Chen, Fang-Sun Lu, and Jeu-Yih Jeng</i>	

Heterogeneous Interconnection between SDN and Layer2 Networks Based on NSI	472
<i>Ta-Yuan Chou, Wun-Yuan Huang, Hui-Lan Lee, Te-Lung Liu, Joe Mambretti, Jim Hao Chen, and Fei Yeh</i>	
A Visible Light Vessel Navigation Mechanism for Waterway Management System	478
<i>Shih-Hao Chang and Kuei-Ping Shih</i>	

Session 2: Wireless and Mobile Technology

Mobile Data Usage Prediction System and Method	484
<i>Yueh-Ting Lai, Ya-Ping Wu, Chia-Hsuan Yu, Fang-Sun Lu, and Chi-Hua Chen</i>	
Location Recommendation and Power Adjustment for D2D Communication Underlying LTE Cellular Networks	487
<i>Chiapin Wang, Fang-Ru Fu, and Meng-Yuan Tsai</i>	
Comparison Data Traffic Scheduling Techniques for Classifying QoS over 5G Mobile Networks	492
<i>Mohammed Dighriri, Ali Saeed Dayem Alfoudi, Gyu Myoung Lee, Thar Baker, and Rubem Pereira</i>	

The 10th International Symposium on Mining and Web (MAW-2017)

Session 1: Mining and Web Application I

Stacked Denoising Autoencoder-Based Deep Collaborative Filtering Using the Change of Similarity	498
<i>Yosuke Suzuki and Tomonobu Ozaki</i>	
Sequential Representation of Clinical Data for Full-Fitting Survival Prediction	503
<i>Jianfei Zhang, Lifei Chen, Aurélien Bach, Josiane Courteau, Alain Vanasse, and Shengrui Wang</i>	
Extraction of Characteristic Sets of Ingredients and Cooking Actions on Cuisine Type	509
<i>Tomonobu Ozaki, Xia Gao, and Mako Mizutani</i>	
Tracking Positions of Human Body Parts Based on Distance Measurement with Sound Wave	514
<i>Masatoshi Matsumoto, Kazumasa Kaneta, Miyabi Naruoka, Hiroshi Tanaka, and Kosuke Takano</i>	
A General Framework for Privacy Preserving Sequential Data Publishing	519
<i>A. S. M. Touhidul Hasan and Qingshan Jiang</i>	

Session 2: Mining and Web Application II

Extraction of Characteristic Frequent Visual Patterns by Distributed Representation	525
<i>Saki Kawanobe and Tomonobu Ozaki</i>	
Improvement of the Interface of Smartphone for an Active Learning with High Learning Concentration	531
<i>Noriyasu Yamamoto and Noriki Uchida</i>	
The Need for Audit-Capable E-Voting Systems	535
<i>Suzanne Mello-Stark and Edmund A. Lamagna</i>	
Detecting Anomalies in the Data Residing over the Cloud	541
<i>Deepali Arora and Kin Fun Li</i>	

The 2nd International Workshop on Innovative Technologies in Informatics and Networking (WITIN-2017)

Session 1: Wireless and Mobile Networks

A Priority-Based Energy Replenishment Scheme for Wireless Rechargeable Sensor Networks	547
<i>Chi-Ming Yang, Kuei-Ping Shih, and Shih-Hao Chang</i>	
Secure Data Collection Scheme for Wireless Sensor Networks	553
<i>Ren Junn Hwang and Yan Zhi Huang</i>	
BSQ: Barrier Coverage Mechanism for Guaranteeing Surveillance Quality in Wireless Sensor Networks	559
<i>Xuemei Shao, Guilin Chen, Shenghui Zhao, Jinjun Liu, and Chih-Yung Chang</i>	
Applying a Fuzzy-Based Dynamic Channel Allocation Mechanism to Cognitive Radio Networks	564
<i>Ying-Hong Wang and Shou-Li Liao</i>	
An Off-Line Mobile Payment Protocol Providing Double-Spending Detection	570
<i>Raylin Tso and Chen-Yi Lin</i>	

Session 2: IoT and Networking

A Passive Localization Scheme Based on Channel State Information in an Indoor Environment	576
<i>Hongli Yu, Guilin Chen, Shenghui Zhao, and Chih-Yung Chang</i>	
Campus Digital Signage: Connection of Correlated Information between Distributor and Receiver	581
<i>Yilang Wu, Tatsuki Kawaguchi, Lei Jing, Junbo Wang, and Zixue Cheng</i>	
A Panorama-Based Book Searching Service for Libraries	583
<i>Hsuan-Pu Chang, Yue Li, and Sheng-Hong Yu</i>	
FPGA Implementation of VLC Communication Technology	586
<i>Haochang Guo, Ka Lok Man, Qilei Ren, Qian Huang, Vladimir Hahanov, Eugenia Litvinova, and Svetlana Chumachenko</i>	
A Study of Content-Aware Classification of POI	591
<i>Chieh-Chi Chiu, Zhong-Xing Xie, Hsin-Wen Wei, and Wei-Tsong Lee</i>	

Session 3: Intelligent Data Analysis

Construction of a Metadata Schema for Medical Data in Networking Applications	597
<i>Chi-Jane Chen, Tun-Wen Pai, Jhen-Li Huang, Ying-Tsang Lo, Shih-Syun Lin, and Chun-Chao Yeh</i>	
A MRT Daily Passenger Flow Prediction Model with Different Combinations of Influential Factors	601
<i>Lijuan Liu and Rung-Ching Chen</i>	
Extensible Activity Recognition System for Behavior Support	606
<i>Tomoharu Imai and Matsui Kazuki</i>	
Face Liveness Verification Based on Hyperspectrum Analysis	612
<i>Yifei Liu, Min Zheng, and Qingyong Li</i>	

Adaptive Thresholding for Skin Lesion Segmentation Using Statistical Parameters	616
<i>Ashmita Gupta, Ashish Issac, Malay Kishore Dutta, and Hui-Huang Hsu</i>	

The 9th International Workshop on Disaster and Emergency Information Network Systems (IWDENS-2017)

Session 1: Disaster Information Networking and Applications

Disaster Information Sharing System Considering Communication Status and Elapsed Time	621
<i>Yoshitaka Shibata, Tatsuya Goto, Goshi Sato, and Koji Hashimoto</i>	
Information Communication System Consisted of Multiple Unmanned Aerial Vehicles on Disaster	627
<i>Yoshitaka Shibata, Norifumi Tanaka, and Noriki Uchida</i>	
Implementation of Shift Array Antenna Control Systems with Image Recognitions for Vehicle-to-Vehicle Networks	633
<i>Noriki Uchida, Ryo Ichimaru, Kenta Ito, Tomoyuki Ishida, and Yoshitaka Shibata</i>	
Research on Realization of a Multi-hop Network Based on Delay Tolerant Network on Disasters	639
<i>Yoshitaka Shibata, Shinya Kitada, Goshi Sato, and Koji Hashimoto</i>	
IoT Based Mobility Information Infrastructure in Challenged Network Environment toward Aging Society	645
<i>Yoshitaka Shibata and Goshi Sato</i>	

Session 2: Disaster Information Systems

An Implementation of Operation Method for Disaster GIS on Ultra Definition Display	649
<i>Yoshitaka Shibata, Akira Sakuraba, Tomoyuki Ishida, and Koji Hashimoto</i>	
Road Surface Condition Understanding and Sharing System Using Various Sensing Technologies	655
<i>Kenta Ito, Go Hirakawa, Koji Hashimoto, Yoshikazu Arai, and Yoshitaka Shibata</i>	
Development of Light-Weight Information Sharing System for Disaster Volunteer Headquarter	659
<i>Hiroaki Yuze, Shinichi Nabeta, and Kazuki Matsunaga</i>	
Proposal of a Disaster Information Cloud System for Disaster Prevention and Reduction	664
<i>Yusuke Hirohara, Tomoyuki Ishida, Noriki Uchida, and Yoshitaka Shibata</i>	

The 2nd International Workshop on Big data processing in Online Social Network (BOSON-2017)

Session 1: Modeling and Simulation of Big Data Processing

Correlation of Digital Evidences in Forensic Investigation through Semantic Technologies	668
<i>Flora Amato, Giovanni Cozzolino, Antonino Mazzeo, and Nicola Mazzocca</i>	
Formal Procedural Content Generation in Games Driven by Social Analyses	674
<i>Flora Amato and Francesco Moscato</i>	

A Deterministic Approach to Improve Inter-Domain Parallelism of Clustered MPSoC	
Interconnects	680
<i>Edoardo Fusella</i>	
Multilayer Perceptron: An Intelligent Model for Classification and Intrusion Detection	686
<i>Flora Amato, Nicola Mazzocca, Francesco Moscato, and Emilio Vivenzio</i>	

Session 2: Technologies for Online Social Network Data Processing

Automatic Personalization of Visiting Path Based on Users Behaviour	692
<i>Flora Amato, Giovanni Cozzolino, Vincenzo Moscato, Antonio Picariello, and Giancarlo Sperli</i>	
DiG-Park: A Smart Parking Availability Searching Method Using V2V/V2I and DGP-Class Problem	698
<i>Walter Balzano and Fabio Vitale</i>	
Let's Gossip: Exploring Malware Zero-Day Time Windows by Social Network Analysis	704
<i>Fiammetta Marulli and Francesco Mercaldo</i>	

The 12th International Workshop on the Performance Analysis and Enhancement of Wireless Networks (PAEWN-2017)

Session 1: Network Performance Analysis and Enhancement

Comparison of Theoretical and Practical Performances with 802.11n and 802.11ac Wireless Networking	710
<i>David Newell, Philip Davies, Russell Wade, Perry Decaux, and Mak Shama</i>	
Impact of Cell Load on 5GHz IEEE 802.11 WLAN	716
<i>Mamun Abu-Tair and Saleem N. Bhatti</i>	
A Testbed for Admission Control in WLANs: Effects of RSSI on Connection Keep-Alive Time	722
<i>Takaaki Inaba, Kosuke Ozera, Shinji Sakamoto, Tetsuya Oda, Makoto Ikeda, and Leonard Barolli</i>	
A Wireless Sensor Networks Balanced Energy Consumption Protocol	730
<i>Naeem Jan, Ahmad Raza Hameed, Babar Ali, Rahim Ullah, Kaleem Ullah, and Nadeem Javaid</i>	
Author Index	737