

**2016 IEEE 14th Intl Conf
on Dependable, Autonomic and Secure
Computing, 14th Intl Conf
on Pervasive Intelligence
and Computing, 2nd Intl Conf on Big
Data Intelligence and Computing
and Cyber Science and Technology
Congress**

DASC-PICom-DataCom-CyberSciTec 2016

Table of Contents

Message from the CyberSciTech 2016	
Program and General Chairs.....	xviii
Message from the DASC 2016 Program	
and General Chairs.....	xx
Message from the PICom 2016 Program	
and General Chairs.....	.xxii
Message from the DataCom 2016 Program	
and General Chairs.....	.xxiv
CyberSciTech 2016 Organizing Committee.....	.XXV
CyberSciTech 2016 Program Committeexxvii
DASC 2016 Organizing Committee.....	.xxix
DASC 2016 Program Committee.....	.xxxi
PICom 2016 Organizing Committee.....	.xxxiii
PICom 2016 Program Committee.....	.xxxiv
DataCom 2016 Organizing Committee.....	.xxxvi
DataCom 2016 Program Committee.....	.xxxviii

CyberSciTech 2016

Regular Papers

Perspectives on Cyber Science and Technology for Cyberization and Cyber-Enabled Worlds	1
<i>Jianhua Ma, Kim-Kwang Raymond Choo, Hui-huang Hsu, Qun Jin, William Liu, Kevin Wang, Yufeng Wang, and Xiaokang Zhou</i>	
Software Defined Small Cell Networking under Dynamic Traffic Patterns	10
<i>Li Zhou, Jiao Zhang, Boon-Chong Seet, Lei Zuo, Xiping Hu, Jiaxun Li, Shan Wang, and Jibo Wei</i>	
A Visual Inspection System for Rail Corrugation Based on Local Frequency Features	18
<i>Qingyong Li, Yunqiang Tan, Zhang Huayan, Shengwei Ren, Peng Dai, and Weiyi Li</i>	
Surface Construction from Kinect RGB-D Stream	24
<i>W.G.C.W. Kumara, Timothy K. Shih, Hui-Huang Hsu, Shih-Jung Wu, Stanislav Klimenko, and Andrei Klimenko</i>	
Record Linkage Using the Combination of Twice Iterative SVM Training and Controllable Manual Review	31
<i>Fei Wang and Hongbo Wang</i>	
Personal Data Analytics to Facilitate Cyber Individual Modeling	39
<i>Xiaokang Zhou, Bo Wu, Qun Jin, Jianhua Ma, Weimin Li, and Neil Y. Yen</i>	
Emerging Mobile Communication Technologies for Healthcare System in 5G Network	47
<i>Sadia Din, Anand Paul, Awais Ahmad, and Seungmin Rho</i>	
Radio Resource Allocation for D2D-Enabled Massive Machine Communication in the 5G Era	55
<i>Huitao Yang, Boon-Chong Seet, Syed Faraz Hasan, Peter Han Joo Chong, and Min Young Chung</i>	
Applying Virtual Coordination Anchor Node to Routing Mechanism in Wireless Sensor Networks	61
<i>Ying-Hong Wang and Cheng-Han Tsai</i>	
Message Forwarding Strategies in Device-to-Device Based Mobile Social Networking in Proximity (MSNP)	69
<i>Yufeng Wang, Jiabing Chen, Qun Jin, and Jianhua Ma</i>	
A Scheme for Controlling Functionality of Mobile Device Using Specialized Codes	75
<i>Su-Wan Park and Jeong Nyeo Kim</i>	

Poster Papers

A Fault Injection Simulation Method Based on Petri Net	83
<i>Haitao Liu, Yu Huang, Guangxian Lv, Peng Jin, and Xueyuan Su</i>	
A Cyber Voice Recognition with Low SNR	87
<i>Hua-An Zhao</i>	
Evaluation of Network Risk Using Attack Graph Based Security Metrics	91
<i>Santosh Kumar, Anuradha Negi, Keshav Prasad, and Aniket Mahanti</i>	
What Influences the Students' Learning Experience? The Impact of Peer Learning in an Online Environment	94
<i>Songlak Sakulwichitsintu</i>	

Special Sessions

Cyber Data Mining for Natural Language Processing

Review of Research on Computer Games for Tibetan Chess	97
<i>Xiali Li, Songting Deng, Xinyang Wang, Yongji Li, Licheng Wu, and Junxian Duan</i>	
The Design and Implementation of a High-Efficiency Distributed Web Crawler	100
<i>Qiumei Pu</i>	
Ontology Modeling and Application of Multi-agent for Negotiation System	105
<i>Qiumei Pu and Hong Zhang</i>	
A Preliminary Study of Plant Domain Ontology	109
<i>Xiaoxu Li, Yiming Zhang, Junli Wang, and Qiumei Pu</i>	

User Modeling Driven Personalized Services in Social Cyberspace

A Proportional Multi-resource Scheduling Model in SDCloud	113
<i>Hang Zhou, Qing Li, Ningning Dong, Xinying Zhu, and Xiaodong Liu</i>	
The Construction and Analysis of Baidu Baike Entry Network	119
<i>Lei Wang, Lingyu Xu, Jie Yu, Yunlan Xue, Gaowei Zhang, Xiang Yu, and Bofeng Zhang</i>	
Socialized User Modeling in Microblogging Scenarios for Interest Prediction	124
<i>Mingqing Huang, Bofeng Zhang, Guobing Zou, Chengwei Gu, Peiyie Wu, Shulin Cheng, and Zhu Zhang</i>	
Overview of the Task Management System of Ternary Optical Computer	132
<i>Sulan Zhang, Yi Jin, Yunfu Shen, Junjie Peng, Shan Ouyang, and Cong Peng</i>	
An Asynchronous Distributed ADMM Algorithm and Efficient Communication Model	136
<i>Ling Fang and Yongmei Lei</i>	

Cyber Social Computing and Cyber-Enabled Applications

Analysis and Modeling for Interaction with Mobility Based on Pi-Calculus	141
<i>Yaya Liu and Jiulei Jiang</i>	
A Probabilistic Perspective Model for Recommendation Considering Long Tail Effect	147
<i>Shuanghu Luo and Jun Xie</i>	
An Ontology Pattern for Emergency Event Modeling	151
<i>Wei Liu, Yue Tan, Ning Ding, Yujia Zhang, and Zongtian Liu</i>	
An Image Encryption Method Based on RSFPrLR, RSLPrFL Circulant Matrices	157
<i>Xing Wu and Shuji Dai</i>	
Overlap Community Detection Based on Node Convergence Degree	163
<i>Weimin Li, Shu Jiang, HuaiKou Miao, Xiaokang Zhou, and Qun Jin</i>	

Cyber Security and Privacy with Network Log Analytics

An Anonymous Scheme for Current Taxi Applications	168
<i>Zijian Zhang, Ange Tong, Liehuang Zhu, Mingxin Chen, and Pengchuan Su</i>	
Intrusion Detection Based on IDBM	173
<i>Yajun Liu and Xuan Zhang</i>	
A MapReduce-Based Framework for Analyzing Web Logs in Offline Streams	178
<i>Ruoyu Chen, Yangsen Zhang, Rongrong Bi, Yuru Jiang, and Yanhua Zhang</i>	
Measuring Structural Resilience through a Carrier Network Model	184
<i>Ziheng Wei and Jiamou Liu</i>	

Big Data Techniques and Image Processing under Cyber

Noisy Problem on Discrete Linear Consensus Protocol in Networked Multi-agent Systems	190
<i>Dou Quan-Sheng, Li Jin-Jiang, Fan Hui, and Pan Yuehao</i>	
ShapeNets: Image Representation Based on the Shape	196
<i>Hui Fan, Yan Zhang, Zhen Hua, Jinjiang Li, Tao Sun, and Menglin Ren</i>	
Causal Association Analysis Algorithm for MOOC Learning Behavior and Learning Effect	202
<i>Hongyan Wang, Xingwei Hao, Wenjiang Jiao, and Xingwu Jia</i>	
Construction of Learning Partners Based on Learning Interest	207
<i>Mingliang Hou, Xingwei Hao, Shuo Tian, and Yi Liu</i>	
Single Image Super-resolution Based on Self-Similarity and Dictionary Neighborhood	211
<i>Liang Guo, Guizhong Wang, Fan Zhang, and Xuemei Li</i>	

A New Interpolation Algorithm Based on the Frequency Transform	217
<i>Fan Qinglan, Zhang Yunfeng, Yao Xunxiang, Bao Fangxun, and Shen Xiaohong</i>	
Saliency Detection Based on Multi-scale Image Features	223
<i>Chaoqun Zheng, Xiaozhi Zheng, Guizhong Wang, Shuo Tian, and Qiang Guo</i>	
Weakly-Supervised Classification of Pulmonary Nodules Based on Shape Characters	228
<i>Jingqi Song, Hui Liu, Fenghuan Geng, and Caiming Zhang</i>	
Single Image Dehazing Method under the Influence of Un-uniform Illumination	233
<i>Wenhua Zhang, Shanshan Gao, Jing Chi, Hui Liu, and Yuanfeng Zhou</i>	

Cyber-Physical System for Sustainability

Managing Energy Efficiency in the Cloud Computing Environment Using SNMPv3: A Quantitative Analysis of Processing and Power Usage	239
<i>Asif Iqbal, Colin Pattinson, and Ah-Lian Kor</i>	
Evaluation of ICT Environmental Impact for an SME	245
<i>Michail Papanderou, Ah-Lian Kor, and Colin Pattinson</i>	
Effective Green IT Strategy in a UK Higher Education Institute	251
<i>Latifah M. AlHarbi and Colin Pattinson</i>	
An Evaluation of the Impact of Remote Collaboration Tools on Corporate Sustainability	257
<i>Jeanette Shaw, Ah-Lian Kor, and Colin Pattinson</i>	

DASC 2016

Regular Papers

Enhancing Windows Firewall Security Using Fuzzy Reasoning	263
<i>Nitin Naik and Paul Jenkins</i>	
MalAware: Effective and Efficient Run-Time Mobile Malware Detector	270
<i>Jelena Milosevic, Alberto Ferrante, and Miroslaw Malek</i>	
uAuction: Analysis, Design, and Implementation of a Secure Online Auction System	278
<i>Nazia Majadi, Jarrod Trevathan, and Neil Bergmann</i>	
Collusion Attack Detection in Networked Systems	286
<i>Md Zakirul Alam Bhuiyan and Jie Wu</i>	
A Model to Evaluate the Credibility of Service in Cloud Computing Environment	294
<i>Li Liao, Bixin Li, and Chao Li</i>	

Sensor-Cloud and Power Line Communication: Recent Developments and Integration	302
<i>Chunsheng Zhu, Yinjia Huo, Victor C.M. Leung, and Laurence T. Yang</i>	
Detecting Denial of Service Attacks in the Cloud	309
<i>Raneel Kumar, Sunil Pranit Lal, and Alok Sharma</i>	
Multi-stakeholders' Policy Enforcement for Android	317
<i>Shahryar Khan Afzidi, Daud Khan, Latif Jan, and Aftab Khan</i>	
Developing a Mobile System for Natural Language Grammar Acquisition	322
<i>Marina Purgina, Maxim Mozgovoy, and Vitaly Klyuev</i>	
Needleman-Wunsch and Smith-Waterman Algorithms for Identifying Viral Polymorphic Malware Variants	326
<i>Vijay Naidu and Ajit Narayanan</i>	
Hierarchical Transactional Memory Protocol for Distributed Mixed-Criticality Embedded Systems	334
<i>Zaher Owda, Moisés Urbina, Roman Obermaisser, and Mohammed Abuteir</i>	
ChainVoxel: A Data Structure for Scalable Distributed Collaborative Editing for 3D Models	344
<i>Kengo Imae and Naohiro Hayashibara</i>	
Dependency Management in Component-Based Building Automation Systems	352
<i>Malte Burkert and Heiko Krumm</i>	
Distributed Strategic Learning for Building Network Embedded Coding to Achieve Reliable Event Notification	360
<i>Christian Esposito, Aniello Castiglione, Francesco Palmieri, and Florin Pop</i>	
Autocorrelation-Based Detection of Infinite Loops at Runtime	368
<i>Andreas Ibing, Julian Kirsch, and Lorenz Panny</i>	
A Publish/Subscribe Protocol for Event-Driven Communications in the Internet of Things	376
<i>Christian Esposito, Aniello Castiglione, Francesco Palmieri, Massimo Ficco, and Kim-Kwang Raymond Choo</i>	
A Discussion and Review of Network Steganography	384
<i>Jun O Seo, Sathiamoorthy Manoharan, and Aniket Mahanti</i>	
Design and Analysis of IoT Applications: A Model-Driven Approach	392
<i>Bruno Costa, Paulo F. Pires, Flávia C. Delicato, Wei Li, and Albert Y. Zomaya</i>	
Range Encoding-Based Network Verification in SDN	400
<i>Yen-Lun Tseng, Guey-Yun Chang, Chun-Chung Shih, Yue-Xin Liu, and Tien-Hsiang Wu</i>	
OmPe-Fibo: An Efficient Forbidden Pattern Free CAC Design for NoCs	406
<i>Zahra Shirmohammadi, Yassin Allivand, Fereshte Mozafari Gharba, and Seyed Ghassem Miremadi</i>	

Attack Detection in Cloud Infrastructures Using Artificial Neural Network with Genetic Feature Selection	414
<i>Sayantan Guha, Stephen S. Yau, and Arun Balaji Buduru</i>	
Stereoscopic Image Quality Assessment Based on Cyclopean Image	420
<i>Kaixuan Lu and Wei Zhu</i>	

Poster Papers

An Efficient Tool for Industrial Control System Security Analysis	424
<i>Chuangming Xia, Jing Tian, Erqing Li, Junwei Zhou, Jianwen Xiang, Jin Wang, Liang Bai, and Yueying He</i>	
An Analysis of Open Standard Identity Protocols in Cloud Computing Security Paradigm	428
<i>Nitin Naik and Paul Jenkins</i>	

The 2nd International Workshop on Social Computing in Health Informatics (Social Health 2016)

Tolerance-Based Group Scoring Scheme Promotes Cooperation in Public Goods Game	432
<i>Haiping Zhang, Gang Wang, Hongjun Qiu, Weitong Hu, and Lanping Yu</i>	
An Improved Exponential Smoothing Model on Rental Trends Prediction of Public Bicycle Stations	437
<i>Fei Lin, Linyao Zhang, Haitao Xu, and Yong Sun</i>	
Effect of Different Migration Strategies on Evolution of Cooperation in Spatial Prisoner's Dilemma Game	442
<i>Hong Ding, Xiangyu Chen, Benyun Shi, Yanming Ye, and Yizhi Ren</i>	

International Workshop on Emerging Dependable Computing System Technologies and Applications (EDCSTA 2016)

Threat Modeling in Cyber-Physical Systems	448
<i>Eduardo B. Fernandez</i>	
An Ontology-Based Framework for Hybrid Cloud Resiliency Mechanism	454
<i>Toshihiro Uchibayashi, Bernady O. Apduhan, and Norio Shiratori</i>	

PICom 2016

Regular Papers

Discovering Items with Potential Popularity on Social Media	459
<i>Khushnood Abbas, Luo Xin, and Shang Mingsheng</i>	
Harnessing Smartphones as a Personal Informatics Tool towards Self-Awareness and Behavior Improvement	467
<i>Hania Aslam, Hamid Mukhtar, Farhana Seemi, and Djamel Belaïd</i>	
A Framework for Third Party Android Marketplaces to Identify Repackaged Apps	475
<i>Nai-Wei Lo, Shau-Kang Lu, and Yo-Hsuan Chuang</i>	
A Novel Network Selection Mechanism for Vehicle-to-Infrastructure Communication	483
<i>Emmanuel Ndashimye, Nurul I Sarkar, and Sayan Kumar Ray</i>	
Architecture and Protocols for Inter-cell Device-to-Device Communication in 5G Networks	489
<i>A. Murkaz, R. Hussain, S.F. Hasan, M.Y. Chung, B.-C. Seet, P.H.J. Chong, S.T. Shah, and S.A. Malik</i>	
Assessing Device-Free Passive Localization with a Single Access Point	493
<i>Debraj Basu and Syed Faraz Hasan</i>	
Communities Evolution Analysis Based on Events in Dynamic Complex Network	497
<i>Yao Hong, Cai Fu, Qingfeng Huang, Zhicun Fang, JieHua Zeng, and Lansheng Han</i>	
Early Stage Internet Traffic Identification Using Data Gravitation Based Classification	504
<i>Lizhi Peng, Haibo Zhang, Bo Yang, Yuehui Chen, and Xiaoqing Zhou</i>	
LPA: Learning-Based Power Aware Communication Protocol in WBANs	512
<i>Abbas Arghavani, Haibo Zhang, and Zhiyi Huang</i>	
A Moment-Based Classification Algorithm and Its Comparison to the K-Nearest Neighbours for 2-Dimensional Data	520
<i>Krzysztof Pawelec and Artem Lenskiy</i>	
An Intelligent Defects Identification for Motors Using Partial Discharge Signals	526
<i>Hong-Chan Chang, Cheng-Chien Kuo, and Yuan-Sheng Li</i>	
Automated Scene Analysis by Image Feature Extraction	530
<i>Syed Omer Gilani, Mohsin Jamil, Zahra Fazal, Muhammad Samran Naveed, and Rabiela Sakina</i>	
ICFS: An Improved Fast Search and Find of Density Peaks Clustering Algorithm	537
<i>Jing Gao, Liang Zhao, Zhikui Chen, Peng Li, Han Xu, and Yueming Hu</i>	

Proactive Intelligent System for Optimizing Traffic Signaling	544
<i>R. Sanchez-Iborra, J.F. Ingles-Romero, G. Domenech-Asensi, J.L. Moreno-Cegarra, and Maria-Dolores Cano</i>	
A Lightweight Trust Design for IoT Routing	552
<i>David Airehrour, Jairo Gutierrez, and Sayan Kumar Ray</i>	
Hybrid Backtracking Search Optimization Algorithm and K-Means for Clustering in Wireless Sensor Networks	558
<i>N.M. Abdul Latiff, N.N. Nik Abdul Malik, and L. Idoumghar</i>	
A Two-Level Load Balancing Method with Dynamic Strategy for Cloud Computing	565
<i>Yan-Wun Qiu and Jen-Ing G. Hwang</i>	
A Simulated Annealing Combined Genetic Algorithm for Virtual Machine Migration in Cloud Datacenters	572
<i>Yidong Li, Xiangjun Meng, and Hairong Dong</i>	
A Usability Study on the Privacy Policy Visualization Model	578
<i>Kambiz Ghazinour and Tahani Albalawi</i>	
Are Coarse-Grained Overlays Ready for General Purpose Application Acceleration on FPGAs?	586
<i>Abhishek Kumar Jain, Douglas L. Maskell, and Suhaib A. Fahmy</i>	
Fast CU Size Decisions for HEVC Intra Frame Coding Based on Support Vector Machines	594
<i>Deyuan Liu, Xingang Liu, and Yayong Li</i>	
A Low-Complexity Intra Prediction Mode Selection Algorithm in HEVC	598
<i>Wentao Yang and Yiming Pi</i>	

DataCom 2016

Regular Papers

Online Resource Management in Thermal and Energy Constrained Heterogeneous High Performance Computing	604
<i>Mark A. Oxley, Sudeep Pasricha, Anthony A. Maciejewski, Howard Jay Siegel, and Patrick J. Burns</i>	
Performance Optimization of the SSVD Collaborative Filtering Algorithm on MapReduce Architectures	612
<i>ShiouCheng Yu, Quey-Liang Kao, and Che-Rung Lee</i>	
expanCodes: Tailored LDPC Codes for Big Data Storage	620
<i>Yongmei Wei and Fengmin Chen</i>	
Backbone Traffic Pattern Analysing Based on Joint Entropy	626
<i>Jie Xu, Wei Ding, Jian Gong, and XiaoDong Zang</i>	

A Four-Layer Architecture for Online and Historical Big Data Analytics	634
<i>Julie Yixuan Zhu, Jialing Xu, and Victor O.K. Li</i>	
FOG-Engine: Towards Big Data Analytics in the Fog	640
<i>Farahd Mehdipour, Bahman Javadi, and Aniket Mahanti</i>	
Self-Operation of a Network	647
<i>Haitao Tang and Kaj Stenber</i>	
A Cloud-Based Network Architecture for Big Data Services	654
<i>Ming Zhao, Arun Kumar, G.G. Md. Nawaz Ali, and Peter Han Joo Chong</i>	
QoS Oriented Embedding for Network Virtualization	660
<i>Li Xu, Hui Li, Jingting Sun, Kai Pan, and Guanghui Zhang</i>	
NoWog: A Workload Generator for Database Performance Benchmarking	666
<i>Parinaz Ameri, Nico Schlitter, Jörg Meyer, and Achim Streit</i>	
A Context-Aware Trust Prediction Method Based on Behavioral Data Analysis in Distributed Network Environments	674
<i>Guoyu Yang, Qibo Sun, Ao Zhou, Jinglin Li, Xiang Yuan, and Hanyi Tang</i>	
Online Distance Measurement for Tree Data Event Streams	681
<i>Eileen Kuehn and Achim Streit</i>	
Comparing Intention and Behavior: Characteristics of Valuable Information and Information Verification	689
<i>Mathupayas Thongmak</i>	
Improving Recommendation Accuracy by Considering Electronic Word-of-Mouth and the Effects of Its Propagation Using Collective Matrix Factorization	696
<i>Ren-Shiou Liu and Tian-Chih Yang</i>	
On the Role of Mobility and Network Coding on Multi-message Gossip in Random Geometric Graph	704
<i>Gang Wang, Zun Lin, and Jie Wu</i>	
CDR Based Temporal-Spatial Analysis of Anomalous Mobile Users	710
<i>Zhen Wang and Sihai Zhang</i>	
Efficient Processing of Uncertain Data Using Dezert-Smarandache Theory: A Case Study	715
<i>Hossein Jafari, Xiangfang Li, and Lijun Qian</i>	
A New Algorithm of Geometric Mean for Solving High-Order Fredholm Integro-differential Equations	723
<i>E. Aruchunan, N. Khajohnsaksumeth, and B. Wiwatwanapataphee</i>	
ZQL: A Unified Middleware Bridging Both Relational and NoSQL Databases	730
<i>Jie Xu, Mengji Shi, Chaoyuan Chen, Zhen Zhang, Jigao Fu, and Chi Harold Liu</i>	
G-Storm: A GPU-Aware Storm Scheduler	738
<i>Yi-Ren Chen and Che-Rung Lee</i>	

Big Data Framework for Analyzing Patents to Support Strategic R&D Planning	746
<i>Wonchul Seo, Namhyoung Kim, and Sungchul Choi</i>	
Information Pricing: A Utility Based Pricing Mechanism	754
<i>Divya Rao and Wee Keong Ng</i>	
On the Incentive Effect of Reputation Systems	761
<i>Han Jiao, Lu Lu, and Zhanhua Xin</i>	
Modeling of Resource Granularity and Utilization with Virtual Machine Splitting	769
<i>Hojjat Baghban, Jerry Chou, Ching-Hsien Hsu, and Yeh-Ching Chung</i>	
Logico-linguistic Semantic Representation of Documents	773
<i>Sharyar Wani, Mohamed Ridza Wahiddin, and Tengku Mohd. Tengku Sembok</i>	
Design and Partial Implementation of Health Care System for Disease	
Detection and Behavior Analysis by Using DM Techniques	781
<i>Dingkun Li, Hyun Woo Park, Musa Ibrahim M. Ishag, Erdenebileg Batbaatar, and Keun Ho Ryu</i>	
MSFS: Multiple Spatio-temporal Scales Traffic Forecasting in Mobile Cellular Network	787
<i>Dandan Miao, Weijian Sun, Xiaowei Qin, and Weidong Wang</i>	
Forecasting Crimes Using Autoregressive Models	795
<i>Eugenio Cesario, Charlie Catlett, and Domenico Talia</i>	
Unsupervised Anomaly Detection Using Light Switches for Smart Nursing Homes	803
<i>Chih-Wei Ho, Chun-Ting Chou, Yu-Chun Chien, and Chia-Fu Lee</i>	
Interactive Healthcare Big Data Analytics Platform under Simulated Performance	811
<i>Dillon Chrimes, Belaid Moa, Hamid Zamani, and Mu-Hsing Kuo</i>	
A Comprehensive Validation Methodology for Trajectory Pattern Mining of GPS Data	819
<i>Eugenio Cesario, Carmela Comito, and Domenico Talia</i>	
Efficient On/Off-Line Query Pre-processing for Telecom Social Streaming Data	827
<i>Cheng Wu, Jigao Fu, Zhen Zhang, and Chi Harold Liu</i>	
Social Media Analysis on Evaluating Organisational Performance a Railway Service Management Context	835
<i>Jie Yang and Ahm Mehbub Anwar</i>	
Analysis of Human Autonomic Nervous Activity Based on Big Data Measurement via SmartPhone	842
<i>Makoto Komazawa, Kenichi Itao, Hiroyuki Kobayashi, and Zhiwei Luo</i>	
Sustainability through Intelligent Scheduling of Electric Water Heaters in a Smart Grid	848
<i>M.J. Booyse and A.H. Cloete</i>	

A New Topology Time Division Beacon Construction Approach for IEEE802.15.4/ZigBee Cluster-Tree Wireless Sensor Networks	856
<i>Smain Femmam and Ikbal M. Benakila</i>	
Vehicle Classification in Acoustic Sensor Networks Based on Hybrid Dictionary Learning	861
<i>Shuilin Guo, Rui Wang, Bin Liu, Qiyue Wei, and Yanping Li</i>	
A Data Science Model for Big Data Analytics of Frequent Patterns	866
<i>Carson K. Leung, Fan Jiang, Hao Zhang, and Adam G.M. Pazdor</i>	

Poster Papers

Collaborative Filtering and Deep Learning Based Hybrid Recommendation for Cold Start Problem	874
<i>Jian Wei, Jianhua He, Kai Chen, Yi Zhou, and Zuoyin Tang</i>	
Privacy-Preserving Palm Print Authentication Using Homomorphic Encryption	878
<i>Jong-Hyuk Im, JinChun Choi, DaeHun Nyang, and Mun-Kyu Lee</i>	
Log on Cloud: A SaaS Data Collection, Storage, and Analysis Framework	882
<i>Peng Xu, Yadong Zhang, and Kai Shuang</i>	
Scalable Interactive Geo Visualization Platform for GIS Data Analysis	886
<i>Lekha R. Nair, Sarath Saleem, and Sujala D. Shetty</i>	
Stochastic Self-Organisation of Poorly Structured Data and Memory Realisation in an Information Domain When Designing News Events Forecasting Models	890
<i>S.A. Lesko and D.O. Zhukov</i>	
Generation of the Single Precision BLAS Library for the Parallelia Platform, with Epiphany Co-processor Acceleration, Using the BLIS Framework	894
<i>Miguel Tasende</i>	
Enhancing Mobility Management and Supporting 3d Visualization	898
<i>Hanafy M. Ali</i>	
A Data Divergence Design Method for Testing Big Data Application	905
<i>Zhenyu Liu, Yun Hu, and Lizhi Cai</i>	
Temporal and Spatial Trend Analysis of Cloud Spot Instance Pricing in Amazon EC2	909
<i>Khandelwal Veena, Chaturvedi Anand, and Gupta Chandra Prakash</i>	
PyramidViz: Visual Analytics and Big Data Visualization for Frequent Patterns	913
<i>Carson K. Leung, Vadim V. Kononov, Adam G.M. Pazdor, and Fan Jiang</i>	
A Distributed and Autonomous Guard System Based on Cloud Environments	917
<i>Wei-Fa Liao, Hung-Min Sun, and Wei Wu</i>	

International Workshop on Big Data Programming and System Software (BDPSS) and Data Intensive Computing and Communications for Sustainable Development (DICC4SD)

Fast Processing SPARQL Queries on Large RDF Data	921
<i>Guang Yang, Pingpeng Yuan, and Hai Jin</i>	
A Semantic-Based Approach to Building Auxiliary System for Screen-Based Reading	927
<i>Huizhong Zhong, Shaofeng Li, Feng Zhao, Hai Jin, and Qin Zhang</i>	
Research about New Media Security Technology Base on Big Data Era	933
<i>Zheng-Wu Lu</i>	
Design and Implementation of Hybrid Shingled Recording RAID System	937
<i>Zheng-Wu Lu and Gang Zhou</i>	
Disaster EHealth-Sustainability in the Extreme	943
<i>David Parry, Samaneh Madanian, and Tony Norris</i>	
CatchMe If You Can: Enable Sustainable Communications Using Internet of Movable Things	947
<i>Ambreen Memon, William Liu, and Adnan Al-Anbuky</i>	
Author Index	953