

Contents

Best Paper Candidate

Similarity Search Algorithm over Data Supply Chain Based on Key Points . . .	3
<i>Peng Li, Hong Luo, Yan Sun, and Xin-Ming Li</i>	
Privacy-Preserving Strategyproof Auction Mechanisms for Resource Allocation in Wireless Communications	13
<i>Yu-E Sun, He Huang, Xiang-Yang Li, Yang Du, Miaomiao Tian, Hongli Xu, and Mingjun Xiao</i>	
Cost Optimal Resource Provisioning for Live Video Forwarding Across Video Data Centers	27
<i>Yihong Gao, Huadong Ma, Wu Liu, and Shui Yu</i>	
Research and Application of Fast Multi-label SVM Classification Algorithm Using Approximate Extreme Points	39
<i>Zhongwei Sun, Zhongwen Guo, Mingxing Jiang, Xi Wang, and Chao Liu</i>	

Database and Big Data

Determining the Topic Hashtags for Chinese Microblogs Based on 5W Model	55
<i>Zhibin Zhao, Jiahong Sun, Zhenyu Mao, Shi Feng, and Yubin Bao</i>	
HMVR-tree: A Multi-version R-tree Based on HBase for Concurrent Access	68
<i>Shan Huang, Botao Wang, Shizhuo Deng, Kaili Zhao, Guoren Wang, and Ge Yu</i>	
Short- and Long-Distance Big Data Transmission: Tendency, Challenge Issues and Enabling Technologies	78
<i>Weigang Hou, Xu Zhang, Lei Guo, Yuyang Sun, Siqu Wang, and Ye Zhang</i>	
A Compact In-memory Index for Managing Set Membership Queries on Streaming Data	88
<i>Yong Wang, Xiaochun Yun, Shupeng Wang, and Xi Wang</i>	

Smart Phone and Sensing Application

Accurate Identification of Low-Level Radiation Sources with Crowd-Sensing Networks	101
<i>Chaocan Xiang, Panlong Yang, Wanru Xu, Zhendong Yang, and Xin Shen</i>	
Rotate and Guide: Accurate and Lightweight Indoor Direction Finding Using Smartphones	111
<i>Xiaopu Wang, Yan Xiong, and Wenchao Huang</i>	
LaP: Landmark-Aided PDR on Smartphones for Indoor Mobile Positioning . . .	123
<i>Xi Wang, Mingxing Jiang, Zhongwen Guo, Naijun Hu, Zhongwei Sun, and Jing Liu</i>	
WhozDriving: Abnormal Driving Trajectory Detection by Studying Multi-faceted Driving Behavior Features	135
<i>Meng He, Bin Guo, Huihui Chen, Alvin Chin, Jilei Tian, and Zhiwen Yu</i>	
Trajectory Prediction in Campus Based on Markov Chains.	145
<i>Bonan Wang, Yihong Hu, Guochu Shou, and Zhigang Guo</i>	

Sensor Networks and RFID

Soil Moisture Content Detection Based on Sensor Networks.	157
<i>Zhan Huan, Li Chen, LianTao Wang, and CaiYan Wan</i>	
Missing Value Imputation for Wireless Sensory Soil Data: A Comparative Study	172
<i>Guodong Sun, Jia Shao, Hui Han, and Xingjian Ding</i>	
Redundancy Elimination of Big Sensor Data Using Bayesian Networks.	185
<i>Sai Xie, Zhe Chen, Chong Fu, and Fangfang Li</i>	
IoT Sensing Parameters Adaptive Matching Algorithm	198
<i>Zhijin Qiu, Naijun Hu, Zhongwen Guo, Like Qiu, Shuai Guo, and Xi Wang</i>	
Big Data in Ocean Observation: Opportunities and Challenges	212
<i>Yingjian Liu, Meng Qiu, Chao Liu, and Zhongwen Guo</i>	

Machine Learning and Algorithm

MR-Similarity: Parallel Algorithm of Vessel Mobility Pattern Detection.	225
<i>Chao Liu, Yingjian Liu, Zhongwen Guo, Xi Wang, and Shuai Guo</i>	

Knowledge Graph Completion for Hyper-relational Data	236
<i>Miao Zhou, Chunhong Zhang, Xiao Han, Yang Ji, Zheng Hu, and Xiaofeng Qiu</i>	
Approximate Subgraph Matching Query over Large Graph.	247
<i>Yu Zhao, Chunhong Zhang, Tingting Sun, Yang Ji, Zheng Hu, and Xiaofeng Qiu</i>	
A Novel High-Dimensional Index Method Based on the Mathematical Features	257
<i>Yu Zhang, Jiayu Li, and Ye Yuan</i>	
Architecture and Applications	
Target Detection and Tracking in Big Surveillance Video Data.	275
<i>Aiyun Yan, Jingjiao Li, Zhenni Li, and Lan Yao</i>	
SGraph: A Distributed Streaming System for Processing Big Graphs.	285
<i>Cheng Chen, Hejun Wu, Dyce Jing Zhao, Da Yan, and James Cheng</i>	
Towards Semantic Web of Things: From Manual to Semi-automatic Semantic Annotation on Web of Things.	295
<i>Zhenyu Wu, Yuan Xu, Chunhong Zhang, Yunong Yang, and Yang Ji</i>	
Efficient Online Surveillance Video Processing Based on Spark Framework . . .	309
<i>Haitao Zhang, Jin Yan, and Yue Kou</i>	
Routing and Resource Management	
Improved PC Based Resource Scheduling Algorithm for Virtual Machines in Cloud Computing	321
<i>Baiyou Qiao, Muchuan Shen, Junhai Zhu, Yujie Zheng, Xiaolong Li, Bin Tong, Donghai Chen, and Guoren Wang</i>	
Resource Scheduling and Data Locality for Virtualized Hadoop on IaaS Cloud Platform	332
<i>Dan Tao, Bingxu Wang, Zhaowen Lin, and Tin-Yu Wu</i>	
An Asynchronous 2D-Torus Network-on-Chip Using Adaptive Routing Algorithm	342
<i>Zhenni Li, Jingjiao Li, Aiyun Yan, and Lan Yao</i>	
Security and Privacy	
Infringement of Individual Privacy via Mining Differentially Private GWAS Statistics	355
<i>Yue Wang, Jia Wen, Xintao Wu, and Xinghua Shi</i>	

Privacy Preserving in the Publication of Large-Scale Trajectory Databases . . .	367
<i>Fengyun Li, Fuxiang Gao, Lan Yao, and Yu Pan</i>	
A Trust System for Detecting Selective Forwarding Attacks in VANETs . . .	377
<i>Suwan Wang and Yuan He</i>	
Certificateless Key-Insulated Encryption: Cryptographic Primitive for Achieving Key-Escrow Free and Key-Exposure Resilience	387
<i>Libo He, Chen Yuan, Hu Xiong, and Zhiguang Qin</i>	
Signal Processing and Pattern Recognition	
A Novel J wave Detection Method Based on Massive ECG Data and MapReduce	399
<i>Dengao Li, Wei Ma, and Jumin Zhao</i>	
A Decision Level Fusion Algorithm for Time Series in Cyber Physical System	409
<i>Jinshun Yang, Xu Zhang, and Dongbin Wang</i>	
An Improved Image Classification Method Considering Rotation Based on Convolutional Neural Network.	421
<i>Jingyi Qu</i>	
Social Networks and Recommendation	
Semantic Trajectories Based Social Relationships Discovery Using WiFi Monitors.	433
<i>Fengzi Wang, Xinning Zhu, and Jiansong Miao</i>	
Improving Location Prediction Based on the Spatial-Temporal Trajectory . . .	443
<i>Ping Li, Xinning Zhu, and Jiansong Miao</i>	
Path Sampling Based Relevance Search in Heterogeneous Networks	453
<i>Qiang Gu, Chunhong Zhang, Tingting Sun, Yang Ji, Zheng Hu, and Xiaofeng Qiu</i>	
Author Index	465

Big Data Computing and Communications
Second International Conference, BigCom 2016,
Shenyang, China, July 29-31, 2016. Proceedings
Wang, Y.; Yu, G.; Zhang, Y.; Han, Z.; Wang, G. (Eds.)
2016, XVI, 466 p. 201 illus., Softcover
ISBN: 978-3-319-42552-8