

2017 IEEE 23rd International Conference on Parallel and Distributed Systems (ICPADS 2017)

**Shenzhen, China
15-17 December 2017**



**IEEE Catalog Number: CFP17036-POD
ISBN: 978-1-5386-3208-6**

**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:	CFP17036-POD
ISBN (Print-On-Demand):	978-1-5386-3208-6
ISBN (Online):	978-1-5386-2129-5
ISSN:	1521-9097

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 23rd International Conference on Parallel and Distributed Systems ICPADS 2017

Table of Contents

Message from General Chairs .xvii
Message from Program Chairs .xviii
Conference Organization .xix
Workshop Organizing Committees .xx
Program Committee .xxi
Reviewers .xxiv
Keynotes .xxvi

Session 1: Mobile and Ubiquitous Computing

Event Description and Detection in Cyber-Physical Systems: An Ontology-Based Language and Approach .1.....	
<i>Meng Ma (Peking University), Ling Liu (Peking University), Yangxin Lin (Peking University), Disheng Pan (Peking University), and Ping Wang (Peking University)</i>	
BARTON: Low Power Tongue Movement Sensing with In-Ear Barometers .9.....	
<i>Balz Maag (ETH Zurich), Zimu Zhou (ETH Zurich), Olga Saukh (Graz University of Technology / Complexity Science Hub Vienna), and Lothar Thiele (ETH Zurich)</i>	
A Time Series Classification Method for Battery Event Detection .17.....	
<i>Fengchao Peng (Hong Kong University of Science and Technology), Xibo Zhou (Hong Kong University of Science and Technology), Hao Liu (Hong Kong University of Science and Technology), Haoyu Tan (Hong Kong University of Science and Technology), Qiong Luo (Hong Kong University of Science and Technology), and Jiye Hu (Beijing Chuangzhi Technique Company Limited)</i>	
AppIS: Protect Android Apps Against Runtime Repackaging Attacks .25.....	
<i>Lina Song (School of Information Science and Technology), Zhanyong Tang (School of Information Science and Technology), Zhen Li (School of Information Science and Technology), Xiaoqing Gong (School of Information Science and Technology), Xiaojiang Chen (School of Information Science and Technology), Dingyi Fang (School of Information Science and Technology), and Zheng Wang (Metlab)</i>	

Charge-Depleting of the Batteries Makes Smartphones Recognizable .33.....	33
<i>Jing Chen (State Key Laboratory of Software Engineering), Yingying Fang (State Key Laboratory of Software Engineering), Kun He (State Key Laboratory of Software Engineering), and Ruiying Du (Collaborative Innovation Center of Geospatial Technology)</i>	
Concatenating Road Take Me Home: Indoor Navigation Without Infrastructure Support .41.....	41
<i>Lina Chen (College of Mathematic) and Zhichao Cao (School of Software)</i>	
Data Collection with Privacy Preserving in Participatory Sensing .49.....	49
<i>Qinghua Chen (Wenzhou Vocational & Technical College; Zhejiang University of Technology), Shengbao Zheng (Shanghai Jiao Tong University), and Zhengqiu Weng (Wenzhou Vocational & Technical College)</i>	
Hierarchical Resource Distribution Network Based on Mobile Edge Computing .57.....	57
<i>Dewang Ren (School of Electronics & Information Engineering), Xiaolin Gui (School of Electronics & Information Engineering), Huijun Dai (School of Electronics & Information Engineering), Jian An (School of Electronics & Information Engineering), Xin Liang (School of Electronics & Information Engineering), Wei Lu (School of Electronics & Information Engineering), and Meihong Chen (School of Electronics & Information Engineering)</i>	
Machine Learning (ML)-Based Air Quality Monitoring Using Vehicular Sensor Networks .65.....	65
<i>Duc Van Le (Department of Computer Science) and Chen-Khong Tham (Department of Electrical and Computer Engineering)</i>	
ML-NA: A Machine Learning Based Node Performance Analyzer Utilizing Straggler Statistics .73.....	73
<i>Xue Ouyang (School of Computing), Changjian Wang (School of Computer), Renyu Yang (School of Computer Science and Engineering), Guogui Yang (School of Computer), Paul Townend (School of Computing), and Jie Xu (School of Computing)</i>	
MODE: A Context-Aware IoT Middleware Supporting On-Demand Deployment for Mobile Devices .81.....	81
<i>Wei He (School of Software & Microelectronics), Jingbin Zhang (School of Electronics Engineering and Computer Science), Meng Ma (School of Electronics Engineering and Computer Science), and Ping Wang (National Engineering Research Center for Software Engineering)</i>	
WiSH: The Design and Implementation of a Real-Time System for Whole-Day Human Detection .89.....	89
<i>Yue Zheng (Tsinghua University), Tianmeng Hang (Tsinghua University), Kun Qian (Tsinghua University), Chenshu Wu (Tsinghua University), Zheng Yang (Tsinghua University), and Xiancun Zhou (West Anhui University)</i>	
When User Interest Meets Data Quality: A Novel User Filter Scheme for Mobile Crowd Sensing .97.....	97
<i>Wensheng Li (Beijing Institute of Technology), Fan Li (Beijing Institute of Technology), Kashif Sharif (Beijing Institute of Technology), and Yu Wang (University of North Carolina at Charlotte)</i>	
Toward Heterogeneity-Aware Device-to-Device Data Dissemination over Wi-Fi Networks .105.....	105
<i>Lyes Hamidouche (Sorbonne Universités), Pierre Sens (Sorbonne Universités), Sébastien Monnet (LISTIC/Université Savoie Mont Blanc), and Dimitri Refauelet (Magency)</i>	

SpeAR: A Fast AR System with High Accuracy Deployed on Mobile Devices .113.....	
	<i>Kang Yang (School of Information Science and Technology), Xiaoqing Gong (School of Information Science and Technology), Shiwei Song (School of Information Science and Technology), Tianzhang Xing (School of Information Science and Technology), Xiaojiang Chen (School of Information Science and Technology), and Dingyi Fang (School of Information Science and Technology)</i>
SoundWrite II: Ambient Acoustic Sensing for Noise Tolerant Device-Free Gesture Recognition .121.....	
	<i>Mingshi Chen (PLA Army Engineering University), Ping Li (PLA Army Engineering University), Maotian zhang (PLA Army Engineering University), and Panlong Yang (University of Science and Technology of China)</i>
Online Auctions with Dynamic Costs for Ridesharing .127.....	
	<i>Chaoli Zhang (Shanghai Jiao Tong University), Fan Wu (Shanghai Jiao Tong University), Xiaofeng Gao (Shanghai Jiao Tong University), and Guihai Chen (Shanghai Jiao Tong University)</i>

Session 2: Security and Dependable Computing (SDC)

HartSift: A High-Accuracy and Real-Time SIFT Based on GPU .135.....	
	<i>Zhihao Li (Institute of Computing Technology), Haipeng Jia (Institute of Computing Technology), and Yunquan Zhang (Institute of Computing Technology)</i>
High Resource Utilization Auto-Scaling Algorithms for Heterogeneous Container Configurations .143.....	
	<i>Yi-Lin Cheng (Department of Computer Science and Information Engineering), Ching-Chi Lin (Department of Computer Science and Information Engineering), Pangfeng Liu (Department of Computer Science and Information Engineering), and Jan-Jan Wu (Institute of Information Science)</i>
A Fast, General Storage Replication Protocol for Active-Active Virtual Machine Fault Tolerance .151.....	
	<i>Cheng Wang (The University of Hong Kong), Xusheng Chen (The University of Hong Kong), Zixu Wang (The University of Hong Kong), Youwei Zhu (The University of Hong Kong), and Heming Cui (The University of Hong Kong)</i>
AutoMJ: Towards Efficient Multi-way Join Query on Distributed Data-Parallel Platform .161.....	
	<i>Guanghui Zhu (Nanjing University), Xiaoqi Wu (Nanjing University), Rong Gu (Nanjing University), Chunfeng Yuan (Nanjing University), and Yihua Huang (Nanjing University)</i>
Bloomfish: A Highly Scalable Distributed K-mer Counting Framework .170.....	
	<i>Tao Gao (National University of Defense Technology; University of Delaware), Yanfei Guo (Argonne National Laboratory), Yanjie Wei (Shenzhen Institutes of Advanced Technology), Bingqiang Wang (National Supercomputing Center in Guangzhou), Yutong Lu (National Supercomputing Center in Guangzhou; National University of Defense Technology; Sun Yat-sen University), Pietro Cicotti (San Diego Supercomputer Center), Pavan Balaji (Argonne National Laboratory), and Michela Tauffer (University of Delaware)</i>

COSY: An Energy-Efficient Hardware Architecture for Deep Convolutional Neural Networks Based on Systolic Array .180.....	
	<i>Chen Xin (Peking University Shenzhen Graduate School), Qiang Chen (Peking University Shenzhen Graduate School), Miren Tian (Peking University Shenzhen Graduate School), Mohan Ji (Peking University Shenzhen Graduate School), Chenglong Zou (Peking University Shenzhen Graduate School), Xin'An Wang (Peking University Shenzhen Graduate School), and Bo Wang (Peking University Shenzhen Graduate School)</i>
D-Ary Cuckoo Filter: A Space Efficient Data Structure for Set Membership Lookup .190.....	
	<i>Zhuohan Xie (Donghua University), Wencheng Ding (Donghua University), Hongya Wang (Donghua University), Yingyuan Xiao (Tianjin University of Technology), and Zhenyu Liu (Shanghai Key Laboratory of Computer Software Testing & Evaluation)</i>
Distributed Set Intersection and Union with Local Differential Privacy .198.....	
	<i>Qiao Xue (Nanjing University of Aeronautics and Astronautics), Youwen Zhu (Nanjing University of Aeronautics and Astronautics), Jian Wang (Nanjing University of Aeronautics and Astronautics), and Xingxin Li (Nanjing University of Aeronautics and Astronautics)</i>
Efficient Data Blocking and Skipping Framework Applying Heuristic Rules .206.....	
	<i>Yong Wang (Institute of Information Engineering), Xiaochun Yun (Institute of Information Engineering), Xi Wang (Institute of Information Engineering), Shupeng Wang (Institute of Information Engineering), and Yongshang Wu (School of Software)</i>
Efficient GPU-Based Query Processing with Pruned List Caching in Search Engines .215.....	
	<i>Dongdong Wang (Nankai-Baidu Joint Lab), Wenging Yu (Nankai-Baidu Joint Lab), Rebecca J. Stones (Nankai-Baidu Joint Lab), Junjie Ren (Nankai-Baidu Joint Lab), Gang Wang (Nankai-Baidu Joint Lab), Xiaoguang Liu (Nankai-Baidu Joint Lab), and Mingming Ren (Nankai-Baidu Joint Lab)</i>
Exploiting RDMA for Distributed Low-Latency Key/Value Store on Non-volatile Main Memory .225.....	
	<i>Kangping Dong (Shanghai Jiao Tong University), Linpeng Huang (Shanghai Jiao Tong University), and Yanmin Zhu (Shanghai Jiao Tong University)</i>
Exploring Synchronization in Cache Coherent Manycore Systems: A Case Study with Xeon Phi .232.....	
	<i>Xin He (College of Computer Science and Electronic Engineering), Zhiwen Chen (College of Computer Science and Electronic Engineering), Jianhua Sun (College of Computer Science and Electronic Engineering), Hao Chen (College of Computer Science and Electronic Engineering), Dong Li (Department of Electrical Engineering and Computer Science), and Zhe Quan (College of Computer Science and Electronic Engineering)</i>
Extending Blockchain Functionality with Statechain .240.....	
	<i>Xiaokang Chen (Tianjin University) and Kunlong Zhang (Tianjin University)</i>
Fast Parallel Recovery of Many Small In-Memory Objects .248.....	
	<i>Kevin Beineke (Heinrich-Heine Universität Düsseldorf / Institut für Informatik), Stefan Nothaas (Heinrich-Heine Universität Düsseldorf / Institut für Informatik), and Michael Schoettner (Heinrich-Heine Universität Düsseldorf / Institut für Informatik)</i>

Feature Guided In-Situ Indices Generation and Data Placement on Distributed Deep Memory Hierarchies .258	
	<i>Xuechen Zhang (Washington State University Vancouver), Bao Nguyen (Washington State University Vancouver), and Fang Zheng (IBM T. J. Watson Research Center)</i>
Fingerprinting Protocol at Bit-Level Granularity: A Graph-Based Approach Using Cell Embedding .266.....	
	<i>Yafei Sang (IIE) and Yongzheng Zhang (IIE)</i>
GraphMP: An Efficient Semi-External-Memory Big Graph Processing System on a Single Machine .276.....	
	<i>Peng Sun (Nanyang Technological University), Yonggang Wen (Nanyang Technological University), Ta Nguyen Binh Duong (Nanyang Technological University), and Xiaokui Xiao (Nanyang Technological University)</i>
HARS: A Hybrid Adaptive Routing Scheme for Underwater Sensor Networks .284.....	
	<i>Hanjiang Luo (Shandong University of Science and Technology; Shenzhen University), Rukhsana Ruby (Department of Computer Science Engineering), Xiumei Xie (School of Computer Science Engineering), and Yongquan Liang (School of Computer Science Engineering)</i>
High Performance and Scalable Virtual Machine Storage I/O Stack for Multicore Systems .292.....	
	<i>Diming Zhang (Nanjing University), Hao Wu (Nanjing University), Fei Xue (Nanjing University), Liangqiang Chen (Nanjing University), and Hao Huang (Nanjing University)</i>
iCAST: Accelerating High-Performance Data Center Applications by Hybrid Electrical and Optical Multicast .302.....	
	<i>Jinzhao Bao (National University of Defense Technology), Dezun Dong (National University of Defense Technology), Baokang Zhao (National University of Defense Technology), and Zhenghu Gong (National University of Defense Technology)</i>
Loc-K: A Spatial Locality-Based Memory Deduplication Scheme with Prediction on K-Step Locations .310....	
	<i>Shuaijie Jia (Shanghai Jiao Tong University), Chentao Wu (Shanghai Jiao Tong University), and Jie Li (Shanghai Jiao Tong University)</i>
Managing Persistent Objects with a Unified Access Framework in Persistent Memory .318.....	
	<i>Yuchuan Tian (Huazhong University of Science and Technology) and Fang Wang (Huazhong University of Science and Technology)</i>
Virtual Machine Placement for Hybrid Cloud Using Constraint Programming .326.....	
	<i>Coullon Helene (IMT Atlantique), Guillaume Le Louet (IMT Atlantique), and Jean-Marc Menaud (IMT Atlantique)</i>
tScale: A Contention-Aware Multithreaded Framework for Multicore Multiprocessor Systems .334.....	
	<i>Miao Cai (Nanjing University), Shenming Liu (Nanjing University), and Hao Huang (Nanjing University)</i>
Supervised Learning Based Algorithm Selection for Deep Neural Networks .344.....	
	<i>Shaohuai Shi (Department of Computer Science), Pengfei Xu (Department of Computer Science), and Xiaowen Chu (Department of Computer Science)</i>
Scalable Blockchain Based Smart Contract Execution .352.....	
	<i>Zhimin Gao (University of Houston), Lei Xu (University of Houston), Lin Chen (University of Houston), Nolan Shah (University of Houston), Yang Lu (University of Houston), and Weidong Shi (University of Houston)</i>

Routing in IoT Network for Dynamic Service Discovery .360.....	
	<i>Hessam Moeini (University of Texas at Dallas), I-Ling Yen (University of Texas at Dallas), and Farokh Bastani (University of Texas at Dallas)</i>
RING: NUMA-Aware Message-Batching Runtime for Data-Intensive Applications .368.....	
	<i>Ke Meng (Institute of Computing Technology) and Guangming Tan (Chinese Academy of Sciences)</i>
REMOLD: An Efficient Model-Based Clustering Algorithm for Large Datasets with Spark .376.....	
	<i>Mingfei Liang (Beijing Key Lab of Transportation Data Analysis and Mining), Qingyong Li (Beijing Key Lab of Transportation Data Analysis and Mining), Yangli-ao Geng (Beijing Key Lab of Transportation Data Analysis and Mining), Jianzhu Wang (Beijing Key Lab of Transportation Data Analysis and Mining), and Zhi Wei (Department of Computer Science)</i>
Practical Concurrent Self-Organizing Lists .384.....	
	<i>Jing Fu (Tianjin University) and Kunlong Zhang (Tianjin University)</i>
PBUF: Sharing Buffer to Mitigate Flooding Attacks .392.....	
	<i>Changting Lin (Zhejiang University), Chunming Wu (Zhejiang University), Yifei Tian (Zhejiang University), Zhenyu Wen (University of Edinburgh), and Shouling Ji (Zhejiang University)</i>
Optimize the FP-Tree Based Graph Edge Weight Computation on Multi-core MapReduce Clusters .400.....	
	<i>Yuhong Feng (Shenzhen University), Meihong Guo (Shenzhen University), Kezhong Lu (Shenzhen University), Zhong Ming (Shenzhen University), Haoming Zhong (Data Science and Application Intelligence Department), Wentong Cai (Nanyang Technological University), and Zengxiang Li (Institute of High Performance Computing)</i>

Session 3: Big Data and Cloud Computing (BDCC)

CMIP: Data Transmission Latency Optimization for Cooperative Group in Multi-cloud by Adaptive Routing .410.....	
	<i>Jie Wei (Beijing University of Posts and Telecommunications), Shangguang Wang (Beijing University of Posts and Telecommunications), Ao Zhou (Beijing University of Posts and Telecommunications), and Fangchun Yang (Beijing University of Posts and Telecommunications)</i>
Scalable Hash Ripple Join on Spark .419.....	
	<i>Hao Liu (The Hong Kong University of Science and Technology), Jiang Xiao (Services Computing Technology and System Lab), and Fengchao Peng (The Hong Kong University of Science and Technology)</i>
Ambula: Build Communication Lifeline of Corporations During Emergency .429.....	
	<i>An Xie (National Key Laboratory for Novel Software Technology), Xiao Zhang (Trend Micro China Development Center), Xiaoliang Wang (National Key Laboratory for Novel Software Technology), Zhuzhong Qian (National Key Laboratory for Novel Software Technology), and Sanglu Lu (National Key Laboratory for Novel Software Technology)</i>
MCS: Memory Constraint Strategy for Unified Memory Manager in Spark .437.....	
	<i>Ziyao Zhu (Peking University), Qingni Shen (Peking University), Yahui Yang (Peking University), and Zhonghai Wu (Peking University)</i>

A Virtual Middleboxes Network Placement Algorithm in Multi-tenant Datacenter Networks .445.....	
	<i>Xuwei Zhang (National Key Laboratory for Novel Software Technology), Xiaoliang Wang (National Key Laboratory for Novel Software Technology), Cam-Tu Nguyen (National Key Laboratory for Novel Software Technology), Jian Wang (National Key Laboratory for Novel Software Technology), Zhuzhong Qian (National Key Laboratory for Novel Software Technology), and Sanglu Lu (National Key Laboratory for Novel Software Technology)</i>
Accelerating Traditional File Systems on Non-volatile Main Memory .453.....	
	<i>Weitong Jin (Department of Computer Science and Engineering), Yanmin Zhu (Department of Computer Science and Engineering), and Linpeng Huang (Department of Computer Science and Engineering)</i>
Ada-copy: An Adaptive Memory Copy Strategy for Virtual Machine Live Migration .461.....	
	<i>Zhong Wang (Dept. of Computer Science and Engineering), Guangtao Xue (Dept. of Computer Science and Engineering), Shiyu Qian (Shanghai Institute for Advanced Communication and Data Science), Gongshen Liu (Dept. of Computer Science and Engineering), Minglu Li (Dept. of Computer Science and Engineering), Jian Cao (Dept. of Computer Science and Engineering), and Jiadi Yu (Dept. of Computer Science and Engineering)</i>
An ARIMA Based Real-time Monitoring and Warning Algorithm for the Anomaly Detection .469.....	
	<i>Jia Zeng (Tianjin University), Lei Zhang (Tianjin University), Gaotao Shi (Tianjin University), Tiegeng Liu (Tianjin University), and Kun Lin (Tianjin University)</i>
CPU/GPU Collaboration Techniques for Transfer Learning on Mobile Devices .477.....	
	<i>Olivier Valery (National Taiwan University), Pangfeng Liu (National Taiwan University), and Jan-Jan Wu (Academia Sinica)</i>
D-Storm: Dynamic Resource-Efficient Scheduling of Stream Processing Applications .485.....	
	<i>Xunyun Liu (Cloud Computing and Distributed Systems (CLOUDS) Laboratory) and Rajkumar Buyya (Cloud Computing and Distributed Systems (CLOUDS) Laboratory)</i>
Estimating Clustering Coefficient via Random Walk on MapReduce .493.....	
	<i>Qun Liao (College of Computer and Control Engineering Nankai University) and Yulu Yang (College of Computer and Control Engineering Nankai University)</i>
Kinetic Action: Performance Analysis of Integrated Key-Value Storage Devices vs. LevelDB Servers .501.....	
	<i>Manas Minglani (University of Minnesota Twin Cities), Jim Diehl (University of Minnesota Twin Cities), Xiang Cao (School of Computing and Information Systems), Bingzhe Li (University of Minnesota Twin Cities), Dongchul Park (Computer & Electronic Systems Engineering), David J. Lilja (University of Minnesota Twin Cities), and David H.C. Du (University of Minnesota Twin Cities)</i>
Maximizing the Profit of Cloud Broker with Priority Aware Pricing .511.....	
	<i>Xinhou Wang (Services Computing Technology and System Lab), Song Wu (Services Computing Technology and System Lab), Kezhi Wang (Northumbria University), Sheng Di (Argonne National Laboratory), Hai Jin (Services Computing Technology and System Lab), Kun Yang (University of Essex), and Shumao Ou (Oxford Brookes University)</i>

Multi-objective Optimizations in Geo-Distributed Data Analytics Systems .519.....	
	<i>Zhaojie Niu (National University of Singapore), Bingsheng He (National University of Singapore), Chi Zhou (Shenzhen University), and Chiew Tong Lau (Nanyang Technological University)</i>
WSWDC: VLC Enabled Wireless Small-World Data Centers .529.....	
	<i>Yudong Qin (National University of Defense Technology), Deke Guo (National University of Defense Technology), Geyao Cheng (National University of Defense Technology), Dongsong Zhang (Zhenjiang Watercraft College), and Lailong Luo (National University of Defense Technology)</i>
User Perceived Value-Aware Cloud Pricing for Profit Maximization of Multiserver Systems .537.....	
	<i>Peijin Cong (East China Normal University), Liying Li (East China Normal University), Gaoyuan Shao (East China Normal University), Junlong Zhou (Nanjing University of Science and Technology), Mingsong Chen (East China Normal University), Kai Huang (Sun Yat-sen University), and Tongquan Wei (East China Normal University)</i>
Spark-Based Measurement and Analysis on Offline Mobile Application Market over Device-to-Device Sharing in Mobile Social Networks .545.....	
	<i>Yuhua Zhang (Tianjin Key Laboratory of Advanced Networking), Zihan Huang (Tianjin University), Shanxia Wang (Tianjin Key Laboratory of Advanced Networking), Xiaofei Wang (Tianjin Key Laboratory of Advanced Networking), and Tianpeng Jiang (Beijing Anqi Zhilian Technology Co. Ltd.)</i>
Shadow: Exploiting the Power of Choice for Efficient Shuffling in MapReduce .553.....	
	<i>Sijie Wu (Huazhong University of Science and Technology), Hanhua Chen (Huazhong University of Science and Technology), Changfu Lin (Huazhong University of Science and Technology), and Hai Jin (Huazhong University of Science and Technology)</i>
Scheduling for Energy Efficiency and Throughput Maximization in a Faulty Cloud Environment .561.....	
	<i>Huda Alrammah (Department of Computer Science), Yi Gu (Department of Computer Science), Chase Wu (Department of Computer Science), and Shiguang Ju (School of Computer Science and Telecommunication Engineering)</i>
Road Recognition Using Big Data of Coarse-Grained Vehicular Footprints .570.....	
	<i>Yanmin Zhu (Shanghai Jiao Tong University), Xuemei Liu (Shanghai Jiao Tong University), and Pengbo Wang (Shanghai Jiao Tong University)</i>
Online Flow Scheduling with Deadline for Energy Conservation in Data Center Networks .578.....	
	<i>Biyu Zhou (University of Chinese Academy of Sciences), Jie Wu (Center for Networked Computing), Lin Wang (Technische Universität Darmstadt), Fa Zhang (State Key Laboratory of Computer Architecture), and Zhiyong Liu (State Key Laboratory of Computer Architecture)</i>

Session 4: Parallel, Distributed and High-Performance Computing (PDHPC)

An Analytical Study of Recursive Tree Traversal Patterns on Multi- and Many-Core Platforms .586.....	
	<i>Hancheng Wu (Department of Electrical and Computer Engineering) and Michela Becchi (Department of Electrical and Computer Engineering)</i>

An Efficient Label Routing on High-Radix Interconnection Networks .596.....	
	<i>Fei Lei (College of Computer), Dezun Dong (College of Computer), and Xiangke Liao (College of Computer)</i>
Automatic and Transparent Resource Contention Mitigation for Improving Large-Scale Parallel File System Performance .604.....	
	<i>Sarah Neuwirth (University of Heidelberg), Feiyi Wang (Oak Ridge National Laboratory), Sarp Oral (Oak Ridge National Laboratory), and Ulrich Bruening (University of Heidelberg)</i>
Betweenness Centrality Revisited on Four Processors .614.....	
	<i>Lipeng Wang (Hong Kong University of Science and Technology), Xiaoying Jia (Hong Kong University of Science and Technology), and Qiong Luo (Hong Kong University of Science and Technology)</i>
Delay-Guaranteed Minimum Cost Forest for Uncertain Multicast .624.....	
	<i>Bangbang Ren (National University of Defense Technology), Deke Guo (National University of Defense Technology), Junjie Xie (National University of Defense Technology), and Dongsong Zhang (Watercraft College)</i>
Drowsy Register Files for Reducing GPU Leakage Energy .632.....	
	<i>Xin Wang (Virginia Commonwealth University) and Wei Zhang (Virginia Commonwealth University)</i>
GPU-Based Parallel Genetic Algorithm for Increasing the Coverage of WSNs .640.....	
	<i>Ozan Zorlu (Turkish National Defense University), Selma Dilek (Hacettepe University), and Adnan Özsoy (Hacettepe University)</i>
Green Energy Aware Scheduling Problem in Virtualized Datacenters .648.....	
	<i>Gilles Madi Wamba (Institut Mines Telecom Atlantique), Yunbo Li (CNRS), Anne-Cécile Orgerie (CNRS), Nicolas Beldiceanu (Institut Mines Telecom Atlantique), and Jean-Marc Menaud (Institut Mines Telecom Atlantique)</i>
Hexe: A Toolkit for Heterogeneous Memory Management .656.....	
	<i>Lena Oden (Jülich) and Pavan Balaji (Argonne National Laboratory)</i>
HiRy: An Advanced Theory on Design of Deadlock-Free Adaptive Routing for Arbitrary Topologies .664.....	
	<i>Ryuta Kawano (Keio University), Ryota Yasudo (Keio University), Hiroki Matsutani (Keio University), Michihiro Koibuchi (National Institute of Informatics), and Hideharu Amano (Keio University)</i>
vmCA: Memory Capacity Aggregation and Management in Cloud Environments .674.....	
	<i>Luis A. Garrido (Barcelona Supercomputing Center) and Paul Carpenter (Barcelona Supercomputing Center)</i>
SA-PFRS: Semantics-Aware Page Frame Reclamation System in Virtualized Environments .684.....	
	<i>Jing Xu (Institute of Information Engineering), Lei Cui (Institute of Information Engineering), Zhiyu Hao (Institute of Information Engineering), and Chonghua Wang (Institute of Information Engineering)</i>
Rethinking Multicore Application Scalability on Big Virtual Machines .694.....	
	<i>Jianchen Shan (New Jersey Institute of Technology), Weiwei Jia (New Jersey Institute of Technology), and Xiaoning Ding (New Jersey Institute of Technology)</i>

Regional Congestion Control in Datacenter Networks .702.....	
	<i>Fan Yang (University of Chinese Academy of Sciences), Zhan Wang (Institute of Computing Technology), Xiaoli Liu (Institute of Computing Technology), Zheng Cao (Institute of Computing Technology), Guojun Yuan (Institute of Computing Technology), and Xuejun An (Institute of Computing Technology)</i>
Portable Topology-Aware MPI-I/O .710.....	
	<i>Rob Latham (Argonne National Laboratory), Leonardo Bautista-Gomez (Barcelona Supercomputing Cente), and Pavan Balaji (Argonne National Laboratory)</i>
Parallel I/O Optimizations for Scalable Deep Learning .720.....	
	<i>Sarunya Pumma (Virginia Tech), Min Si (Argonne National Laboratory), Wu-chun Feng (Virginia Tech), and Pavan Balaji (Argonne National Laboratory)</i>
Pangu: Towards a Software-Defined Architecture for Multi-function Wireless Sensor Networks .730.....	
	<i>Junchen Guo (School of Software and TNLIST), Yuan He (School of Software and TNLIST), and Xiaolong Zheng (School of Software and TNLIST)</i>
Agreement in Epidemic Data Aggregation .738.....	
	<i>Mosab M. Ayyad (University of Reading) and Giuseppe Di Fatta (University of Reading)</i>
Fine-Grained and Real-Time Gesture Recognition by Using IMU Sensors .747.....	
	<i>Dian Zhang (Shenzhen University), Xiaofeng Wu (Shenzhen University), and Chen Wang (Shenzhen University)</i>

IoTSec 2017

A FO-ADRC Based Neutral-Point Potential Balancing for Three-Level Inverter .755.....	
	<i>Liu Wenliang (State Grid Xiamen Electric Power Supply Company), Wu Han (State Grid Fujian Electric Power Research Institute), Li Zhenming (Electrical Engineering Zhejiang University), Zhang Guoyue (Electrical Engineering Zhejiang University), and Qi Donglian (Electrical Engineering Zhejiang University)</i>
State Identification of Cabinets Based on Convolution Neural Network .761.....	
	<i>Defeng Li (Guangdong power grid limited liability company), Ming Liu (Guangdong power grid limited liability company), Xiaogang Xu (Guangdong power grid limited liability company), and Junhua Li (Guangdong power grid limited liability company)</i>
Using LSTM Networks to Identify False Data of Smart Terminals in the Smart Grid .765.....	
	<i>Xuan Ouyang (Zhejiang University) and Zhuoran Ma (Zhejiang University)</i>
Vulnerability Detection in IoT Firmware: A Survey .769.....	
	<i>Wei Xie (College of Computer), Yikun Jiang (College of Computer), Yong Tang (College of Computer), Ning Ding (Technician Department), and Yuanming Gao (College of Computer)</i>

WST 2017

- Exploring the Efficiency of Data Collection Schemes in Wireless Sensor Networks .773.....
Syed Muhammad Abrar Akber (Huazhong University of Science and Technology), Hanhua Chen (Huazhong University of Science and Technology), and Hai Jin (Huazhong University of Science and Technology)
- HomeSpy: Inferring User Presence via Encrypted Traffic of Home Surveillance Camera .779.....
Yushi Cheng (Zhejiang University), Xiaoyu Ji (Zhejiang University), Xinyan Zhou (Zhejiang University), and Wenyuan Xu (Zhejiang University)
- Location Prediction Based on User Mobile Behavior Similarity .783.....
Jianzhong Qiao (College of Computer Science and Engineering), Shengzhi Li (College of Computer Science and Engineering), and Shukuan Lin (College of Computer Science and Engineering)
- SOLO: 2D Localization with Single Sound Source and Single Microphone .787.....
Yunting Zhang (Tsinghua University), Zhao Wang (Tsinghua University), Weiyi Wang (Tsinghua University), Zhenguo Guo (Xi'an Jiaotong University), and Jiliang Wang (Tsinghua University)
- Using Positioning Priorities for Accurate Anchor-Based Node Location over Wireless Sensor Networks .791....
Junfeng Li (College of Computer Science and Software Engineering), Xiaogang Peng (College of Computer Science and Software Engineering), Lirui Tang (College of Computer Science and Software Engineering), and Yongchang Zhang (College of Computer Science and Software Engineering)
- Multi-attribute Event Modeling and Prediction over Event Streams from Sensors .796.....
Shengzhi Li (School of computer science and engineering), Jianzhong Qiao (School of computer science and engineering), and Shukuan Lin (School of computer science and engineering)

BCTS 2017

- Blockchain with Accountable CP-ABE: How to Effectively Protect the Electronic Documents .800.....
Chao Yuan (State Key Laboratory of Mathematical Engineering and Advanced Computing), Mixue Xu (State Key Laboratory of Mathematical Engineering and Advanced Computing), Xueming Si (State Key Laboratory of Mathematical Engineering and Advanced Computing), and Bin Li (State Key Laboratory of Mathematical Engineering and Advanced Computing)
- Blockchain-Based Government Information Resource Sharing .804.....
Liang Wang (Yanshan University), Wenyuan Liu (Yanshan University), and Xuewei Han (Yanshan University)
- M2M Blockchain: The Case of Demand Side Management of Smart Grid .810.....
Xigao Wu (Xiangtan University), Bin Duan (Xiangtan University), Yinxin Yan (Xiangtan University), and Ying Zhong (Xiangtan University)
- Education Application of Blockchain Technology: Learning Outcome and Meta-Diploma .814.....
Bin Duan (Xiangtan University), Ying Zhong (Xiangtan University), and Dayu Liu (Chinese Academy of Sciences)

Author Index 819