Welcome Message from the General Co-Chairs.............................................................................................................x
Organizing Committee..................................................................................................................................................xi
Program Committee..................................................................................................................................................xii
Keynote 1: Big Data Can Open New Era of Healthcare by Sungyoung Lee....................................................................................xiv
Keynote 2: A Cloud-Based System for Facilitating Collaborative and Micro Learning in Mobile MOOC Learning by Jun Shen.............................................................................................................................................xvi
Keynote 3: Interplay between Machine Learning and Artificial Intelligence by Yixin Chen..............................................................................................................................................xviii

Session 1: Social Computing and Service Computing I
Many Is Better Than All: Efficient Selfish Load Balancing in Mobile Crowdsourcing Systems .................................................................................................................................1
Qingyu Li, Panlong Yang, Shaojie Tang, Chaocan Xiang, and Fan Li
Discovering Topic Evolution Topology in a Microblog Corpus .................................................................7
Bin Zhao, Wei Xu, Genlin Ji, and Chao Tan
Social Recommendation Algorithm Based on the Context of Time and Tags ...........................................15
Xinhua Wang and Lingyuan Dou
A Study on the Retweeting Behaviour of Marketing Microblogs with High Retweets in Sina Weibo ..................................................................................................................20
Zizhu Zhang, Bing Li, Weiliang Zhao, and Jian Yang
A Topic Community-Based Method for Friend Recommendation in Online Social Networks via Joint Nonnegative Matrix Factorization .................................................................28  
Chaobo He, Hanchao Li, Xiang Fei, Yong Tang, and Jia Zhu  
Position Prediction Social-Relationship-Based on Multi-order Markov Model ..........................................................................................................................36  
Yue Zou and Sanfeng Zhang  

**Session 2: Big Data and Applications I**  
NIS: A New Index Scheme for Flash File System .................................................................................44  
Yang Ou, Xiaokuan Wu, Nong Xiao, Fang Liu, and Wei Chen  
Parallel Area Navigation Enhanced Information Extraction Algorithm Based on Massive Historical GNSS Data and MapReduce ........................................................................52  
Dengao Li, Gang Wu, Jumin Zhao, Wenhui Niu, and Shuai Li  
Replication Management Framework for HDFS Based on Prediction Technique ..................................................58  
Dinh-Mao Bui, Thien Huynh-The, Sungyoung Lee, Bin Li, and Jin Wang  
Memory-Based Data Storing Technologies on Hadoop Distribution File System ........................................64  
Aibo Song, Jinlin Tu, Jinghua Zhao, and Xuejiao Qian  
VPCH: A Consistent Hashing Algorithm for Better Load Balancing in a Hadoop Environment ..............................................................69  
Qi Liu, Weidong Cai, Jian Shen, Baowei Wang, Zhangjie Fu, and Nigel Linge  
An Automatic Discovery Framework of Cross-Source Data Inconsistency for Web Big Data ..................................................................................................73  
Sha Yang, Wei Yu, Yahui Hu, Kai Wang, Jun Wang, and Shijun Li  

**Session 3: Cloud Computing and Applications I**  
An Energy-Aware QoS Enhanced Method for Service Computing across Clouds and Data Centers .................................................................................80  
Wanchun Dou, Xiaolong Xu, Shunmei Meng, and Shui Yu  
A Randomized Heuristic for Stochastic Workflow Scheduling on Heterogeneous Systems ................................................................................88  
Wei Zheng, Bugingo Emmanuel, and Chen Wang  
A Power-Aware Virtual Machine Mapper Using Firefly Optimization .................................................................96  
Shoubao Su, Yu Su, Fei Shao, and Haifeng Guo  
Online Scheduling of Multiple Deadline-Constrained Workflow Applications in Distributed Systems ..................................................104  
Wei Zheng, Chao Xu, and Wen Bao  
An Improved Adaptive Workflow Scheduling Algorithm in Cloud Environments ..........................................112  
Yinjuan Zhang and Yun Li
A QoS Guarantee Framework for Cloud Services Based on Bayesian Prediction

Wei Chen, Jiming Chen, Jine Tang, and Liangmin Wang

Session 4: Social Computing and Service Computing II

Traffic-Aware Data Placement for Online Social Networks

Jingya Zhou, Jianxi Fan, Jin Wang, and Juncheng Jia

Cloud-Based Infrastructure for Mobile Testing as a Service

Chuanqi Tao, Jerry Gao, and Bixin Li

Using Suffix Tree to Detect Communities from Bipartite Network

Dai Caiyan, Chen Ling, and Chen Bolun

Clustering on Uncertain Data Stream over Sliding Windows

Li Tu

Session 5: Big Data and Applications II

vGraph: Graph Virtualization towards Big Data

Maqbool Khan, Meng Liu, Wanchun Dou, and Shui Yu

Parallel Optimization of Pixel Purity Index Algorithm for Hyperspectral Unmixing Based on Spark

Jinping Gu, Zebin Wu, Yonglong Li, Yufeng Chen, Zhihui Wei, and Wubin Wang

Superblock: An Application-Aware Dynamic Partition Strategy for Large-Scale Graph

Junxue Zhang, Fang Dong, Dian Shen, Jiahui Jin, and Junzhou Luo

Analyzing Microarray Data with Classification and Clustering Methods

Shaohua Wan

A Fast Level Set Model for Intensity Inhomogeneity Correction in eHealth Analysis System

Huimin Lu, Junwu Zhu, Bin Li, Yujie Li, and Seiichi Serikawa

Information Filtering Based on Personalized Topology Information

Bolun Chen and Ling Chen

Session 6: Cloud Computing and Applications II

Non-cooperative Resource Allocation Scheme for Data Access in VANET

Jun Tao, Ziyi Zhang, Fuqin Feng, Jian He, and Yifan Xu

PROXY: A High Cost-Performance Cloud Storage Gateway

Jibin Wang, Lili Yang, Hu Zhang, Zhaogang Xu, and Ying Guo

SSDP: A Slot-Sensitive Data Placement Strategy in Cloud Computing

Tian Tian, Peng Liu, and HuaXing Kuang
Evaluating the Performance of Erasure Codes .................................................................213
Ping Lu, Zhihao Huang, Shengmei Luo, Hui Li, and Jun Chen

Session 7: Cloud Computing and Security
A Semantic Hash Tree Based Verifiable Data Access Protocol on the Cloud ...........................................219
Fei Chen, Tao Xiang, Jianyong Chen, Wei Yu, Xinwen Fu, and Shengyu Zhang
A Novel Behavior-Based Tracking Attack for User Identification ..................................................227
Xiaodan Gu, Ming Yang, Jiaxuan Fei, Zhen Ling, and Junzhou Luo
A Personalized Extended (a, k)-Anonymity Model .................................................................234
Xiangwen Liu, Qingqing Xie, and Liangmin Wang
Block-Based Method and Its System for Outsourcing Data by Using Onions of Encryption ...........................................241
Shurong Ping, Haiqin Wu, and Liangmin Wang
A Novel User Model Based on Searchable Encryption Scheme .................................................247
Youjing Lu, Qingqing Xie, and Liangmin Wang
Detection and Prevention of Code Injection Attacks on HTML5-Based Apps ...............................254
Xi Xiao, Ruibo Yan, Runguo Ye, Qing Li, Sancheng Peng, and Yong Jiang

Session 8: Cloud Computing and Networking
An Improved Energy-Efficient Clustering Algorithm Based on MECA and PEGASIS for WSNs .................................................................262
Jin Wang, Jiayi Cao, Yiquan Cao, Bin Li, and Sungyoung Lee
A Mobile-Sink Based Energy Efficiency Clustering Routing Algorithm for WSNs in Coal Mine .................................................................267
Jian Shen, Dengzhi Liu, Yongjun Ren, Sai Ji, Jin Wang, and Dongmin Choi
A Novel Method for Virtual Network Embedding with Incentive Convergence Mechanism .................................................................275
Cong Wang, Guohua Liu, and Ying Yuan
The Experimentation and Analysis of Adobe RTMFP Traffic Locality .............................................282
Miaoxin Xu and Zhijie Han
Real-Time True-Color Synthesis of Remote Sensing Image with CUDA .............................................286
Baolin Chen, Xiaoyu Li, Hang Lei, and Hang Wang

Session 9: Big Data Science and Applications
A New Closed Frequent Itemsets Mining Algorithm Based on GPU .............................................291
Yun Li, Jie Xu, and Ling Chen
Using Feature-Interface Graph for Automatic Interface Recommendation: A Case Study .................................296
Wei Shi, Xiaobing Sun, Bin Li, Yucong Duan, and Xiangyue Liu
SLFE: A New Semi-supervised Local Feature Extraction Algorithm .................................................. 304
    Chao Tan, Genlin Ji, and Bin Zhao

Manifold Density Peaks Clustering Algorithm ............................................................................. 311
    Xiaohua Xu, Yongsheng Ju, Yali Liang, and Ping He

A Parallel Clustering Algorithm Based on Grid Index for Spatio-temporal Trajectories .......................... 319
    Min Wang, Genlin Ji, Bin Zhao, and Mengmeng Tang

Analysis of Line Loss Based on Matlab and Oracle Database ...................................................... 327
    Xue-sen Quan, Pei-hong Wang, Yong-sheng Hao, Ming Zhao, and Meng-yang Li

Author Index .................................................................................................................................. 332