2016 IEEE International Conference on Cloud Computing and Big Data Analysis (ICCCBDA 2016)

Chengdu, China 5-7 July 2016



IEEE Catalog Number: CFP16G32-POD ISBN:

978-1-5090-2595-4

Copyright © 2016 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 publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP16G32-POD

 ISBN (Print-On-Demand):
 978-1-5090-2595-4

 ISBN (Online):
 978-1-5090-2594-7

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



2016 IEEE International Conference on Cloud Computing and Big Data Analysis

Table of Contents

Big Data and Data Analysis	
Reforming Education Sector through Big Data	3
Study on the Mobile Cloud Framework for Sociology: An Empirical Implementation	9
Group Learning Analysis and Individual Learning Diagnosis from the Perspective of Big Data	. 15
Big Data Analysis for Chinese Women Academicians Management	. 22
Research on the Big Data Construction of Equipment Support	. 26
Semantic Description and Link Construction of Smart Tourism Linked Data Based on Big Data Yu Fang, Zhong Jiaming, Liu Yaohui, and Guo Mei	.32
Big Data Stream Computing in Healthcare Real-Time Analytics	. 37
Hybrid Non-Linear Dimensionality Reduction Method Framework Based on Random Projections	.43
Keyword Search on Form Result with Hybrid Approach	.49

Data Storage and Management

Design and Realization of Learning Emotion Database	57
Liu Yongna, Sun Bo, Zhang Di, Luo Jihong, Wang Lin, Liu Qiuyue, and Li Wanping	
Cloud Storage Encryption Security Analysis	62
Zhang Jing, Wang Jinsu, Zheng Zhuangfeng, and Zhao Chongan	
Design and Implementation of SSD Aware Heterogeneous Cache Algorithm: A Two-Level C	_
Ling Zhan, Yong Men, Peng Xu, and Kui Jian	00
The Research and Implementation of Metadata Cache Backup Technology Based on CEPH File S	-
Ling Zhan, Xieyun Fang, and Daping Li	1 2
Clustering Algorithm	
Enhancing Parallel k-Means Using Map Reduce for Discovering Knowledge from Big Data	81
The Application of K-Means Clustering Algorithm Based on Hadoop Yurong Zhong and Dan Liu	88
The Improvement and Application of a K-Means Clustering Algorithm	93
The Functional Structure Evolution of Shandong Peninsula Urban Agglomeration	97
Demographic Transformation and Clustering of Transactional Data for Sales Prediction of Conve	nience
Stores	102
Xiaojun Zhang, Jisheng Pei, and Xiaojun Ye	
Multi-View Clustering via Graph Regularized Symmetric Nonnegative Matrix Factorization	109
A Multilevel K-Means Algorithm for the Clustering Problem	115
Noureddine Bouhmala, Anders Viken, and Jonas Blåsås Lønnum	

A New Evidence Accumulation Method with Hierarchical Clustering	122
Social Network Analysis on Sina Weibo Based on K-Means Algorithm	127
Data Mining and Application	
A Rough Petri Nets Model for Stock Trading Signal Detection	135
Study of Iron Concentrate Price Forecasting Models Based on Data Mining	140
Wolf Search Algorithm for Numeric Association Rule Mining Israel Edem Agbehadji, Simon Fong, and Richard Millham	146
Research on Fault Early Warning Technology for Power Middleware System	152
Mining Brain Features from Schizophrenia Studies with Shift-and Pattern Matching Omisore Olatunji Mumini, Ren Lingxue, Kamen Ivanov, and Lei Wang	157
Information Security and Management	
Duplicate Data Detection Using GNN Hanrong Lu, Xin Chen, Xuhui Lan, and Feng Zheng	167
Analyzing Kriging Method and Creating an Application Using Kriging	171
Method for Behavior-Prediction of APT Attack Based on Dynamic Bayesian Game	177
An Efficient and Secure Certificateless Public Key Watermarking Scheme Based on SVD-DWT Osman Wahballa, Ahmed Abdalla, Khalid Hamdnaalla, Mohammed Ramadan, and Chunxiang	
B92 Protocol Analysis Related to the Same Basis Eavesdropping	189
Classification of Mobile APPs with Combined Information	193

An Efficient Certificateless Signcryption in the Standard Model	199
Cloud Computing and Information Network	
Dynamic Networks Analysis and Visualization through Spatiotemporal Link Segmentation	209
A Campus Location Based Service Case for Mobile Virtual Network Operators	215
A View on Internet of Things Driving Cloud Federation	221
Task Scheduling Algorithm Based on Pre-Allocation Strategy in Cloud Computing	227
Definability of Rough Approximations for Binary Relations and Cloud Computing	233
Technology Road Map Drawing of Cloud-Based Payment Based on Bibliometrics Approach from Mathematical Payment Based on Bibliometrics Approach from Based on Bibliometrics Approach from Based o	_
Workload Prediction for Cloud Computing Elasticity Mechanism	244
A Cloud Interoperability Broker (CIB) for Data Migration in SaaS	250
Improved PSO Algorithm for Energy Saving Research in the Double Layer Management Mode Cloud Platform	
IT Operation and Maintenance Process Improvement and Design under Virtualization Environment Jiqing Cao and Shuhai Zhang	t263
Impact of Cloud Services to the Economic Growth	268

Discussion on Private Cloud PaaS Construction of Large Scale Enterprise
Yang Jinzhou, He Jin, Zhang Kai, and Wang Zhijun
Smart Wardrobe System Based on Android Platform279
Hao Peifeng, Cui Yuzhe, Song Jingping, and Hu Zhaomu
The Countermeasure Analysis of Online to Offline Model Adopted in Small and Medium-Sized
Enterprises
Wang Peng and Wei Xiaolin
Multi Agent Based Additive Manufacturing Cloud Platform
Lei Wang, Yuan Yao, Xiaoming Yang, and Dong Chen
Image Processing
Four-Chamber Plane Detection in Cardiac Ultrasound Images Based on Improved Imbalanced AdaBoost
Algorithm299
Wang Lili, Fu Zhongliang, and Tao Pan
Color Identification of Complex Objects Based on the Bayes Classification304
Hao Peifeng, Cui Yuzhe, Song Jingping, and Hu Zhaomu
Social Networks and Emotional Analysis
Sentiment Classification of Chinese Movie Reviews in Micro-Blog Based on Context313
Xing Mou and Yajun Du
Fine-Grained Sentimental Tendency Analysis Based on Chinese Online Commentary of Mobile Phone
319
Jiao Huang, Haobo Sun, Pengbo Guo, Minghao Zhao, and Kai Niu
Customer Voice Sensor: A Comprehensive Opinion Mining System for Call Center Conversation324
Peijia Li, Yonghong Yan, Chaomin Wang, Zhijie Ren, Pengyu Cong, Huixin Wang, and Junlan Feng
Identifying the Most Influential Topic-Sensitive Opinion Leaders in Online Review Communities330
Qingliang Miao, Yao Meng, and Jun Sun
Determinants of Usage Intention in Mobile Social Media: A Structural Equation Modeling Test336
Yung-Shen Yen

LDA-TM: A Two-Step Approach to Twitter Topic Data Clustering	342
Luyi Zou and William Wei Song	
Hot Topic Extraction Based on Chinese Microblog's Features Topic Model	348
Trend Prediction of Hot Words in Weibo Based on Fuzzy Time Series	354
Wanning Liu, Kai Niu, Zhiqiang He, and Yonghua Li	
Can Twitter Posts Predict Stock Behavior? – A study of stock market with twitter social emotion Qian Li, Bing Zhou, and Qingzhong Liu	359
Computer Science and Engineering	
Research on the Integration Strategy of Group Recommendation Based on User's Interactive Be	
Fuxi Tang, Kejian Liu, Ling Feng, and Jingwei Jiang	
TDOA/AOA Based Geolocation Using Newton Method under NLOS Environment	373
The Acquisition Approach of Reference Sequences of Road Traffic Running Characteristics	378
Minimum Manifold-Based Within-Class Scatter Support Vector Machine	384
A Multi-Layered Approach for Arabic Text Diacritization	389
Earthquake Magnitude Estimation Using Recursive Least Squares	394
The Empirical Study of the Spatial Distribution of Chinese Surnames	398
Geological Engineering	
Study on Dynamic Monitoring System of High Slope Based on the Internet of Things	407
He Huang, Zongling Yan, Xiaosong Zhang, Qingchen Wu, Guoren Zhu, Yu Zhang, and Yangfan	n Huang

Feature of Development for Risk Management in Pavement Maintenance System	413
Dan Benţa, Lucia Rusu, Sergiu Jecan, and Oana Dineş	
Mechanical Engineering	
Thermal Error Compensation of CNC Machine Based on Data-Driven	421
Xian Wei, Feng Gao, Jingdong Zhang, and Yunwei Wang	

Author Index