2016 2nd International **Conference on Cloud Computing** and Internet of Things (CCIOT 2016)

Dalian, China 22-23 October 2016



IEEE Catalog Number: CFP1624Y-POD ISBN:

978-1-4673-9823-7

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 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: CFP1624Y-POD ISBN (Print-On-Demand): 978-1-4673-9823-7 ISBN (Online): 978-1-4673-9822-0

Additional Copies of This Publication Are Available From:

Curran Associates. Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Fax:

Table of Contents

I. Cloud computing 1. Architecture				
PID	Paper Information	First Page		
2801	Study on improving Multi-objective Flexible Job Shop Scheduling based on Memetic Algorithm in the NSGA-II Framework Xu Liang, Yixia Zhao, Ming Hang Dalian JiaoTong University	1		
2808	an Improved Genetic Algorithm Using Opposition-based Learning for Flexible Job-Shop Scheduling Problem <i>Ming Hang, Mingxu Wang, Xu Liang</i> Dalian Jiaotong University	8		
I. Cloud computing 2. MapReduce				
PID	Paper Information	First Page		
2735	An Implementation of Heterogeneous Architecture Based MapReduce in the Clouds Yusong Tan, Wenzhu Wang, Qingbo Wu, Jie Lin College of Computer, National University of Defense Technology	16		
2775	A Distribute Reduce Side Join Algorithm Shengchen Xiao, Shengqi Yang, Jian He, Zhangqin Huang Beijing University of Technology	21		
I. Cloud computing 3. Security and Privacy				
PID	Paper Information	First Page		
2741	Analyzing Trust Concerns in Public Clouds Using Finite State Automata Aaron Zimba, Hongsong Chen University of Science and Technology Beijing	25		
2774	VM Resource Constraints Based on Hierarchy for OpenStack <i>Zhigang Xu, Limin Xiao, Weidian Zhan, Xichun Yue, Li Ruan, Rui Liu</i> School of Computer Science and Engineering, Beihang University	30		
2939	Operation Safety Assessment of High-speed Train with Fuzzy Group Decision Making Method and Empirical Research Yong Fu, Yong Qin, Xinwang Liu, Shuting Zheng, Wantong Li, Limin Jia, Zhilong Zhang, Jianying Liang State Key Lab of Rail Traffic & Safety in Beijing Jiaotong University	35		

	I. Cloud computing 4. Services and Applications	
PID	Paper Information	First Page
2785	Solving Hybrid Flow-Shop Scheduling Based on Improved Multi-Objective Artificial Bee Colony Algorithm Xu Liang, Yeming Ji, Ming Huang Dalian Jiaotong University	43
2800	Achieve High Availability about Auto Scale and Auto Heal in OpenStack Jun Xu, Xiaoyong Li Beijing University of Posts and Telecommunications	N/A
2814	Marine Speech Cloud Design and Implementation Zhihong Sun Jiangsu Automation Research Institute	53
	I. Cloud computing 5. Virtualization	
PID	Paper Information	First Page
2725	TMVCETopology-Aware Multipath Virtual Cluster Embedding Algorithm Li Rongzhen, Zhang Jianfeng, Tan Yusong, Wu Qingbo nudt	57
2811	T-Netm: Transparent Network Monitoring on Virtual Machine Pengchuan Du, Xiaoyong Li Beijing University of Posts and Telecommunications	64
2812	Research on The Application of Virtual Resource Scheduling Technology in Distribution Communication Network <i>Yang Peng, Ma Zhicheng, Song Yanbin, Zhang Qiang, Liu Guangxu, Hou Xiaoshuai</i> State Grid Gansu Electric Power Company Information & Telecommunication Branch	68
	I. Cloud computing 7. Big Data	
PID	Paper Information	First Page
2676	Image Segmentation based on Iterative Self-Organizing Data Clustering Threshold of PCNN Haiyan Li, Lei Guo, Pengfei Yu, Jianhua Chen, Yiying Tang Yunnan University, School of Information Science and Engineering, Electronic engineering, Kunming, China, 650050	73

2773	Research on Earthquake Emergency Response Technology Based on Google Maps Data <i>Qing-quan Tan, Hua-chun Luo, Zhi-lin Ren, Qun Liu</i> Earthquake Administration of Beijing Municipality	85			
2776	An Optimized Collaborative Filtering Recommendation Algorithm Longshuai Zheng, Shengqi Yang, Jian He, Zhangqin Huang Beijing University of Technology	89			
2778	The Similarity Calculation of Concept Names Chongchong Zhao, Aonan Cai School of Beijing Science and Technology University	93			
2783	Fast kNN Search for Big Data with Set Compression Tree and Best Bin First <i>Zhenjie Chen, Jingqi Yan</i> Shanghai Jiao Tong University	97			
2795	Community Detection and Key Nodes of Complex Technology Exchange Network <i>Na Xiao</i> Beijing University of Posts and Telecommunications	101			
2853	Extraction of Characteristic Spectral Bands of Wet Gluten in Wheat Based on NIR Dandan Ye, Laijun Sun, Borui Zou, Wenyi Tan, Dan Zhang, Wenkai Che Heilongjiang University	105			
2944	An IoT Inspired Semiconductor Reliability Test System Integrated with Data-Mining Applications Tyler Tang, Andrew Chung, Atman Zhao, Randy Kang, Mark Zhang, Kary Chien, Jungang Yang, Jie Zhang SMIC (Shanghai)	111			
2955	Supermarket Commodity Identification using Convolutional Neural Networks Jingsong Li, Xiaochao Wang, Hang Su Wuhan University of Technology	115			
2958	A Mode Mixing Elimination Method of HHT in Fault Detection Jingsong Li, Chi Zhao, Hang Su Wuhan University of Technology	120			
2968	Classification of Wheat Grains in Different Quality Categories by Near Infrared Spectroscopy and Support Vector Machine Wenyi Tan, Laijun Sun, Dan Zhang, Dandan Ye, Wenkai Che Heilongjiang University	124			
	II. Internet of things 1. Technologies				
PID	Paper Information	First Page			
2739	An MMT based Heterogeneous Multimedia System Using QUIC Bo Li, Chengzhi Wang, Yiling Xu, Zhan Ma Shanghai Jiaotong University	129			
2777	Improved Localization Algorithm Based on RSSI in Low Power Bluetooth Network Xiaolong Shen, Shengqi Yang, Jian He, Zhangqin Huang Beijing University of Technology	134			

2960	Time-frequency Analysis Based on Compressive Sensing Hang Su, Yusi Zhang Key Laboratory of Fiber Optic Sensing Technology and Information Processing, Ministry of Education	138			
II. Internet of things 2. Application and Services					
PID	Paper Information	First Page			
2591	The Application Research of Improved Cloud Genetic Annealing Algorithm <i>Xiaolin Gu, Ming Huang, Xu Liang</i> Dalian Jiao tong University	143			
2750	Design and Management Methods of Smart Home Human-Computer Relationship <i>Jiuqiang Fu, Bing Jiang, Xin Yang</i> Beijing Institute of Technology	148			
2772	The APP of Energy Optimization and Safety Monitoring for New Energy Vehicles Based on The Mobile Internet <i>Tiantian Shi, Linkai Zhou, Jie Zeng, Yizhe Zeng</i> Dalian Jiaotong University	152			
2782	Research on text structuralization in medical field Xiangwu Ding, Xihua Zhang Donghua University	155			
2799	The Research of IOT of Agriculture based on three layers architecture Bing Fu College of Arts and Science, Yangtze University	162			
2834	Utilization of IoT in the Long-term Care Field in Japan Koezuka Hiroshi College of Business Administration, Ritsumeikan University	166			
2857	IoT Based Smart and Secure Home System Abhinav Kumar, Gaurav Kumar Galgotias College of Engineering and Technology	N/A			
2961	The Shopping Assistant Robot design based on ROS and Deep Learning Hang Su, Yusi Zhang, Jingsong Li, Jie Hu Key Laboratory of Fiber Optic Sensing Technology and Information Processing, Ministry of Education	173			
II. Internet of things 4. Experimental Results					
PID	Paper Information	First Page			
2585	An Improved Adaptive Genetic Algorithm in Flexible Job Shop Scheduling <i>Ming Huang, Lu-ming Wang, Xu Liang</i> Dalian Jiaotong University	177			

	Application of Normalized Laplacian Spectra for Multicast Routing Evaluations	
2668	Bo Jiao, Chendong Huang, Ronghua Guo, Bo Li, Fei Huang, Zhenkun Miao, Xuejun Yuan Luoyang Electronic Equipment Test Center	185
2746	Analysis on The Influence on Helicopter Route Planning by Wind <i>Qiang Zheng, Ri-jie Yang, Jia-qi Chen, Yi-huan Chen</i> Department of electronic engineering, naval aeronautical and astronautical university	189
2747	Potential Habitat Selection of Wild Amur Tigers in China Lingjun Meng, Zhongke Feng, Limei Zhang, Yiqiu Li Harbin Normal University; Heilongjiang University; Beijing Forestry University; Mianyang Normal University	194