

# **International Conference on Information Science and Computer Applications**

**(ISCA 2013)**

**Advances in Intelligent Systems Research Volume 92**

**Changsha, Hu Nan, China  
8-9 November 2013**

**ISBN: 978-1-62993-990-2**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2013) by Atlantis Press  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Atlantis Press  
at the address below.

Atlantis Press  
8 Square des Bouleaux  
75019 Paris  
France

[contact@atlantispress.com](mailto:contact@atlantispress.com)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## COMPUTER SCIENCE

<b>DATA MINING IN CLOUD COMPUTING</b> .....	1
<i>Xia Geng, Zhi Yang</i>	
<b>CORRIDOR LAMP CONTROL SYSTEM BASED ON SOLAR AND LED LIGHTING</b> .....	8
<i>Xiangrong Ding, Ping Jia</i>	
<b>CHINESE QUESTION CLASSIFY MODEL BASED ON INTERROGATIVE SEMANTIC UNIT</b> .....	14
<i>Yue Hu, Bo Liu, Shouwei Zhang</i>	
<b>FAULT INJECTION FOR SCADE MODELS</b> .....	20
<i>Xiaolin Shen, Shaoyin Wang, Daqing Wang, Xiaoping Xue</i>	
<b>RESEARCH ON FORMAL MODELING AND VERIFICATION OF ON-BOARD ATP SYSTEM</b> .....	27
<i>Caiyun Chen, Qing Luo, Fang Zhang, Daqing Wang, Xiaoping Xue</i>	
<b>RESEARCH ON AUTOMATIC DIAGNOSIS BASED ON ANN WELL CONDITIONS FAULT</b> .....	33
<i>Zhengjia Wu, Shaoxiong Huang, Yuesheng Luo</i>	
<b>THE DEVELOPMENT AND PROSPECT OF NEW TECHNOLOGY IN MODERN DISTANCE EDUCATION</b> .....	40
<i>Yunguang Chen, Xue Dong</i>	
<b>RESEARCH ON METHODS OF TECHNICAL SUPPORT EQUIPMENT MAINTAINABILITY VERIFICATION BASED ON STRATIFIED RANDOM SAMPLING</b> .....	45
<i>Dong Zhang, Aihua Xu, Yanmei Lv, Yanlong Ni</i>	
<b>REGION-BASED IMAGE SEGMENTATION USING SHAPE-VARYING AGENTS</b> .....	50
<i>Xu Qi</i>	
<b>APPLICATION OF ID3 ALGORITHM IN THE ANALYSIS OF SATELLITE TELEMETRY DATA</b> .....	56
<i>Fan Yu, Qin Yan</i>	
<b>APPLICATION OF NETWORK PROGRAM TECHNIQUE IN SOFTWARE DEVELOPMENT AND MANAGEMENT</b> .....	62
<i>Yanlin Tao, Limei Cui</i>	
<b>WORDNET-BASED SUFFIX TREE CLUSTERING ALGORITHM</b> .....	66
<i>Qiuyue Dang, Jiwei Zhang, Yueming Lu, Kuo Zhang</i>	
<b>REAL-TIME RISK ASSESSMENT OF NETWORK SECURITY BASED ON ATTACK GRAPHS</b> .....	75
<i>Xiaochuan Yin, Yan Fang, Yibo Liu</i>	
<b>AN INTEGRATION OF EXTREME LEARNING MACHINE FOR CLASSIFICATION OF BIG DATA</b> .....	81
<i>Guanwu Zhou, Yulong Zhao, Wenju Xu</i>	
<b>SIMULATION AND APPLICATION OF URBAN INTERSECTION TRAFFIC FLOW MODEL</b> .....	87
<i>Yubin Li, Bingmou Cui, Siyu Hao, Yan Wei</i>	
<b>AN IMPROVED ROUTING PROTOCOL AD-AODV BASED ON AODV</b> .....	95
<i>Zuhong Feng, Long Wang, Xiujuan Gao</i>	
<b>DESIGN AND REALIZATION OF MINIPLC PROGRAMMING SYSTEM</b> .....	102
<i>Qingchao Wei, Qizhong Cai, Congse Xie, Shaoming Pan</i>	
<b>UNIVERSITY TEACHERS' PROFESSIONAL TITLE EVALUATION PREDICTION MODE BASED ON LVQ NEURAL NETWORK</b> .....	107
<i>Jigang Zhang, Na Liang</i>	
<b>RESEARCH ON HD VIDEO TRANSMISSION OF SMART HOME BASED ON LINUX SYSTEM</b> .....	111
<i>Shanhui Yin, Chunhai Zhang, Hao Liu, Yanxiu Sheng, Xi Wang, Zhiqiang Wei</i>	
<b>DESIGN AND IMPLEMENTATION OF PUSH NOTIFICATION SYSTEM BASED ON THE MQTT PROTOCOL</b> .....	116
<i>Konglong Tang, Yong Wang, Hao Liu, Yanxiu Sheng, Xi Wang, Zhiqiang Wei</i>	
<b>DESIGN AND IMPLEMENTATION OF WELLSITE DATA TRANSMISSION SYSTEM BASED ON C/S</b> .....	120
<i>Baolei Ma, Yanmei Zhang</i>	
<b>RESEARCH ON INTERNET-BASED TEACHING OF ENGLISH NEWSPAPER READING</b> .....	124
<i>Xueai Zhao, Yingcong Zhao</i>	
<b>NAME ORIGIN RECOGNITION IN CHINESE TEXTS BASED ON CONDITIONAL RANDOM FIELDS</b> .....	129
<i>Jing Zhang, Jian Xu, Yujie Zhang</i>	

<b>USE OWC CONTROL TO ACHIEVE LAMP ENERGY CONSUMPTION COMPARISON .....</b>	<b>135</b>
<i>De-Yan Wang</i>	

**INFORMATION SCIENCE**

<b>THE APPLICATION OF MRF BASED-ON CHAOS-PSO OPTIMIZATION IN DEPTH INFORMATION ESTIMATION .....</b>	<b>140</b>
<i>Xiangjin Zeng, Cheng Lu</i>	
<b>HIGH-SENSITIVITY ULTRASOUND DETECTION BASED ON PHASE-SHIFTED FIBER BRAGG GRATING .....</b>	<b>146</b>
<i>Mingrui Xua, Jingjing Guo, Changxi Yang</i>	
<b>AN IMPROVED IMAGE SEGMENTATION METHOD USING THREE-DIMENSIONAL REGION GROWING ALGORITHM .....</b>	<b>153</b>
<i>Qiao Wang, Xiaolong Song, Zhengang Jiang</i>	
<b>SAFETY-ORIENTED SOFTWARE ARCHITECTURE DESIGN APPROACH .....</b>	<b>158</b>
<i>Yuling Huang</i>	
<b>IRIS LOCALIZATION WITH AN IMPROVED LEAST SQUARES FITTING ALGORITHM .....</b>	<b>166</b>
<i>Tao Wei, Shuxiang Song, Haiying Xia</i>	
<b>DESIGN AND PRACTICE FOR NATIONAL FITNESS NETWORK CONSULTATION SYSTEM .....</b>	<b>172</b>
<i>Kefei Wang, Li Zhang</i>	
<b>EDIBLE OIL ELECTRICAL PARAMETERS DETECTION SYSTEM DESIGN BASED ON INTERDIGITAL SENSOR .....</b>	<b>178</b>
<i>Yufeng Peng, Lili Zhao, Shaoge Yang</i>	
<b>IMAGE MOSAIC ALGORITHM AND ITS APPLICATION TO THE MICROIMAGE OF GRASS SEEDS .....</b>	<b>184</b>
<i>Lina Ning, Xin Pan, Lin Zhai, Fan Han</i>	
<b>BAYESIAN NETWORK STRUCTURE LEARNING BASED ON ROUGH SET AND MUTUAL INFORMATION .....</b>	<b>190</b>
<i>Zuhong Feng, Xiujuan Gao, Long Wang</i>	
<b>SENSOR TECHNOLOGIES FOR PROGNOSTICS AND HEALTH MANAGEMENT OF ELECTRONICS .....</b>	<b>197</b>
<i>Wenxue Yang, Zhe Chen, Feng Yang</i>	
<b>THE PHOENIX-BASED PARALLEL ALGORITHM FOR CONSTRUCTING EXTREMAL GRAPHS .....</b>	<b>201</b>
<i>Ruijun Zheng, Yongqi Sun, Yali Wu, Rui Zhang</i>	
<b>VIRE AND RECURSIVE-VERIFY BASED RFID LOCATION ALGORITHM .....</b>	<b>207</b>
<i>Chang Wan, Wenhua Zeng, Lvqing Yang</i>	
<b>DESIGN OF VIDEO ACQUISITION IDENTIFICATION SYSTEM BASED ON ZYNQ-7000 SOC PLATFORM .....</b>	<b>213</b>
<i>Weikang Qian, Junhui Mei</i>	
<b>AN IMAGE ADAPTIVE STEGANOGRAPHY ALGORITHM BASED ON SPARSE REPRESENTATION AND ENTROPY .....</b>	<b>219</b>
<i>Chunmei Yu, Jianjun Wang</i>	
<b>MODELING FOR VIBRIO FISCHERI QUORUM SENSING PHENOMENON BASED ON MULTICOMPARTMENTAL GILLESPIE ALGORITHM .....</b>	<b>225</b>
<i>Ji Hu, Xiaoping Wang, Xiaoping Xue</i>	
<b>AN EXPERIENCE-FEEDBACK ALGORITHM OF D-S EVIDENCE THEORY .....</b>	<b>231</b>
<i>Baowen Hu, Bo Shen, Qing Liu</i>	
<b>RESEARCH ON OPERATIONAL ARCHITECTURE MODELING AND VALIDATION METHOD BASED ON DODAF .....</b>	<b>237</b>
<i>Jing Wang, Chenhan Wu, Rui Xu, Huisan Zhang</i>	
<b>THE RESEARCH AND DESIGN OF PERSONALIZATION PREFERENCES BASED ON SIGNALING ANALYSIS .....</b>	<b>243</b>
<i>Zhiqiang Wei, Yiyan Zhang, Hao Liu, Yanxiu Sheng, Xi Wang</i>	
<b>AN ONTOLOGY BASED AGILE C2 ORGANIZATION MODEL .....</b>	<b>249</b>
<i>Tingting Yang, Baoxin Xiu, Weiming Zhang, Jie Liu</i>	
<b>RESEARCH ON THE KEY TECHNOLOGY OF EMBEDDED LINUX LOGISTICS SYSTEM .....</b>	<b>255</b>
<i>Jianli Chu, Xia Liu, Jun Li, Xiaoji Chen</i>	
<b>RESEARCH OF BOILER FAULT DIAGNOSIS BASED ON FUZZY NEURAL NETWORK .....</b>	<b>260</b>
<i>Yifeng Wu, Xiaoqi Lin</i>	

<b>AN IMPROVED KNN ALGORITHM IN TEXT CLASSIFICATION</b> .....	268
<i>Xiaoni Wang, Zhenjiang Zhang, Wei Cao</i>	
<b>CAMERA CALIBRATION WITH ACCURACY EVALUATION AND REAL-TIME EVALUATION IN THE USE OF VISION ROBOT</b> .....	274
<i>Zhen Fan, Lei Zhang, Fengbing Luo</i>	
<b>RISK ASSESSMENT RESEARCH OF COLLEGE STUDENTS ONLINE ENTREPRENEURSHIP BASED ON DISTURBING FUZZY COMPREHENSIVE EVALUATION</b> .....	279
<i>Binye Wu, Xuejiao Wu, Xiaolong Ma, Xufeng Tao, Jiawei Fang</i>	
<b>A WIRELESS SENSOR NETWORK DV-HOP LOCALIZATION ALGORITHM</b> .....	286
<i>Huami Yang, Qi Wang, Zhuang Liu</i>	
<b>INTELLIGENTIZED DISPATCHING CONTROL OF RAILWAY TRANSPORT OF MOLTEN IRON IN METALLURGICAL ENTERPRISE</b> .....	292
<i>Xiaoyan Yang, Bingmou Cui, Jie Chen</i>	
<b>DESIGN AND IMPLEMENTATION OF VEHICLES MONITORING SYSTEM BASED ON ANDROID MOBILE TERMINALS</b> .....	299
<i>Nuan Sui, Chunhai Zhang, Hao Liu, Yanxiu Sheng, Xi Wang, Zhiqiang Wei</i>	
<b>MARKOV DECISION PROCESS PARALLEL VALUE ITERATION ALGORITHM ON GPU</b> .....	304
<i>Peng Chen, Lu Lu</i>	
<b>APPLICATIONS OF CLONAL SELECTION ALGORITHM BASED ON TABU CRITERIA IN COMBINATORIAL OPTIMIZATION</b> .....	310
<i>Yongfei Miao, Yufu Yin, Yunpeng Wang</i>	
<b>THE APPLICATION OF INFORMATION MANAGEMENT IN CONSTRUCTION CONTRACTS MANAGEMENT</b> .....	316
<i>Hua Liu, Chungqiao Zhao</i>	
<b>REGRESSION TESTING FOR AUTOMATIC FARE COLLECTION SYSTEM OF RAIL TRANSIT</b> .....	321
<i>Mo Cheng, Maolin Zhang</i>	
<b>TWO-DIMENSIONAL BARCODE IMAGE SUPER-RESOLUTION RECONSTRUCTION VIA SPARSE REPRESENTATION</b> .....	332
<i>Gaosheng Yang, Liu Ningzhong, Yuan Gao</i>	
<b>ALGORITHM FOR MAP/REDUCE-BASED ASSOCIATION RULES DATA MINING</b> .....	339
<i>Wenqi Wang, Qiang Li</i>	
<b>A METHOD TO REDUCE CORRECTION ERROR FOR ELECTROMAGNETIC WAVE PROPAGATION MODEL</b> .....	345
<i>Tiegang Zou</i>	
<b>A WEIGHTED ML-KNN MODEL FOR PREDICTING USERS'PERSONALITY TRAITS</b> .....	350
<i>Xianglin Zuo, Baoping Feng, Yuan Yao, Tianyi Zhang, Qian Zhang, Mengmeng Wang, Wanli Zuo</i>	
<b>A SECURE LOCALIZATION ALGORITHM IN WIRELESS SENSOR NETWORKS WITH MOBILE ANCHOR NODES</b> .....	356
<i>Jifeng Cui, Feng Xu, Wei Zhou</i>	
<b>HYPERSPECTRAL REMOTE SENSING IMAGES CLASSIFICATION METHOD BASED ON LEARNED DICTIONARY</b> .....	362
<i>Min Li, Jun Shen, Lianjun Jiang</i>	
<b>RESEARCH ON MAP MATCHING ALGORITHM BASED ON NINE-RECTANGLE GRID</b> .....	368
<i>Li Cai, Bingyu Zhu</i>	
<b>Author Index</b>	