

International Conference on Computer, Network, Communication and Information Systems (CNCI 2019)

Advances in Computer Science Research Volume 88

Qingdao, China
27-29 March 2019

Editors:

Ping Zhou

ISBN: 978-1-5108-8588-2

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© (2019) by Atlantis Press
All rights reserved.
Copyright for individual electronic papers remains with the authors.

For permission requests, please contact the publisher:

Atlantis Press
Amsterdam / Paris

Email: contact@atlantis-press.com

Conference Website: <http://www.atlantis-press.com/php/pub.php?publication=cnci-19>

Printed by Curran Associates, Inc. (2019)

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
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Design of Autonomous Navigation Algorithm For Security Inspection Robot	1
<i>Xiaowei Han, Changwen Liu</i>	
Design and Current Tracking Control of Leg Press Training Device With Clutch	10
<i>Hongbo Wang, Hao Yan, Baoshan Niu, Xincheng Wang, Hongfei Yu</i>	
A Blinn-Phong Light Enhancement Algorithm Based on the Gradient of Voxel	17
<i>Ying Gao, Qifan Li, Binzhou Yan, Shuxia Guo</i>	
A Method for Precise Distance and Velocity Measurement of Automotive Radar	24
<i>Haitao Yue, Chengfa Xu</i>	
A Collaborative Filtering Algorithm Based on SVD and Trust Factor	33
<i>Jianfang Wang, Pengfei Han, Yanling Miao, Fengming Zhang</i>	
Visual c++ and MFC Application in Safety Monitoring System of Airplane Depot	40
<i>Wenhua Qiu, Yongliang Zhang, Liang Wang</i>	
Visualization of Sina Weibo Propagation and Sentiment Analysis	46
<i>Yunzhi Ye, Xiao Tan</i>	
The Integration and Evolution Mechanism of the COSCO Container Lines and the China Shipping Container Lines Shipping Networks Based on Theoretical Complex Networks	54
<i>Shan Xu, Mingjun Ji, Yue Song</i>	
Customer Identification of Potential Energy Substitution Based on Big Data Method	63
<i>Yunzhao Li</i>	
Analysis of PV Poverty Alleviation Users Based on Big Data	74
<i>Jian Li</i>	
Character-level Based Conference Named Entity Recognition Using Bi-LSTM	83
<i>Rui Xiong, Chensheng Wu, Li Xiong, Luyu Li</i>	
Ontology Based Reasoning Rules for Target Tracking in WSNs	89
<i>Jing Zhang, Qingxu Xiong</i>	
Experimental Study and XY Model Simulation on the Polarization and Depolarization Characteristics of Oil-paper Insulation	98
<i>Wenxiang Xue, Hui Wang, Shuyuan Wang, Jinghai Xie, Xiangyu Chen</i>	
A New ISTA-net Solution to Inverse Problem of Electrocardiology	105
<i>Liansheng Wang, Weiqi Wu, Yiping Chen, Changhua Liu</i>	
Analysis of TCP Flow Characteristics	112
<i>Xiaoyu Cui, Xingchen Xu, Qingguo ShenLi, Xuefei Liang</i>	
Improved Weighted Median Filter with Superpixel for Disparity Refinement	119
<i>Yuli Fei, Li Cao</i>	
An 1GHz~6.25GHz Phase-Locked Loop for SERDES	125
<i>Xuan Ma, Zongmin Wang, Tieliang Zhang, Song Yang, Wen Xiao</i>	
Extended Rank Reduction Estimator for Noncircular Sources	129
<i>Chong Li, Xiaowen Li, Xiaobao Fu</i>	
Research on Parallel Pipeline Strategy and Controllable Write Allocation of High Speed Solid State Storage Array	137
<i>Xiaowen Wang, SongYan Liu, Huan Liu, Yanlin Chen, Yifei Niu</i>	
Application Analysis of Ultrasonic Technology in Insulator Contamination Discharge Detection	144
<i>Dantian Zhong, Fang Yuan, Jianchun Yao, Jiayu Pan</i>	
A Novel Cognitive Frequency Hopping Detection Algorithm	149
<i>Tong Li, Chenglin Miao, Huiming Wu, Cheng Chang</i>	
A Land Cover Refined Classification Method Based on the Fusion of LiDAR Data and UAV Image	154
<i>Lian Liu, Xing Liu, Junjiong Shi, Anran Li</i>	
Indoor Localization Based on CFR Environment Awareness	163
<i>Xinyu Huang, Bo He</i>	
Global Fast Terminal Sliding Mode Control Law Design of a Quadrotor	167
<i>Hwachou Chen, Haiyun Chen, Ping Xu</i>	
Research of Spark SQL Query Optimization Based on Massive Small Files on HDFS	180
<i>Kefei Cheng, Xudong Chen, Ke Zhou, Xianjun Deng, Zhao Luo</i>	
An Improved Mechanism for Universal Sentence Representations Learnt from Natural Language Inference Data Using Bi-directional Information	191
<i>Dian Jiao, Sheng Gao, Baodong Zhang</i>	

Facial Expression Recognition Method Based on Difference Center-Symmetric Local Directional Pattern	199
<i>Yang Jiao, Xuefei Jia, Junxi Zhao</i>	
Research on Improved LBP Algorithm Based on Euclidean Distance and Differential Coding	203
<i>Xuefei Jia, Yang Jiao, Wenhao Zhang, Junxi Zhao</i>	
Analysis and Design on the Security Management Technology of the Confidential LAN	208
<i>Haiyan Liu, Jiankang Yang, Zeng Zhang</i>	
Discussion on the Integration of ERP and ISO/TS16949	213
<i>Xiaoxue Yang</i>	
A Regional Positioning Algorithm for Non-line-of-sight (NOLS) Propagation	217
<i>Huiming Wu, Jiankang Yang, Cheng Chang</i>	
A Hybrid Approach of Combining BP Neural Network and GARCH Model for Forecasting Stock Price	222
<i>Peipei Zhang, Chuanhe Shen</i>	
A Blockchain Based Authentication Mechanism in Wireless Local Area Network	227
<i>Yuan Yao, Tao Xie</i>	
Research on Behavior Recognition in Infrared Video	232
<i>Ruming Yang, Meng Ding, Xu Zhang, Xinyan Jiang</i>	
Diversity on the Influence of Atmospheric Turbulence for the States Carrying Orbital Angular Momentum	237
<i>Fei Cao, Ruyong He, Chaopeng Wei, Zequn Lin, Shengmei Zhao</i>	
Intersatellite Doppler Shift Simulation Analysis of Laser Frequency Band Based on Navigation Satellite Ephemeris	241
<i>Zhangjian Lu, Yansong Meng, Guoyong Wang, Yuanbo Yao</i>	
Forecasting the Ionospheric f0F2 Parameter One Hour in Advance Using Recurrent Neural Network	249
<i>Zhe Lv, Changjun Yu, Aijun Liu</i>	
Beetle Antennae Search Algorithm Based on PSO and Fibonacci	259
<i>Hongmei Wang, Zhibin Liu, Dan Qu</i>	
Gesture Recognition Based on Improved HOG-LBP Features	264
<i>Gang Nie, Junxi Zhao</i>	
An Approach of Suspected Code Plagiarism Detection Based on XGBoost Incremental Learning	269
<i>Qiubo Huang, Guozheng Fang, Keyuan Jiang</i>	
Complex Background Gesture Recognition Based on Convolutional Pose Machines	277
<i>Ganzhou Liao, Xia Zeng</i>	
Real-time Buffering, Parallel Processing and High-Speed Transmission System for Multi-Channel Video Images Based on ADER	282
<i>MingWang Chen, JianPing Xiong, Cheng Ma, Qi Zhao, Sen Feng</i>	
Marine Object Recognition Based on Deep Learning	290
<i>Bo Shi, Hao Zhou</i>	
Identification of Key Nodes by Algorithm of Betweenness Centrality Based on Traversal of Spark Graph	299
<i>Hongye Xue, Tianmei Li, Xiangyu Luo</i>	
An Efficient Protocol for Privately Determining the Relationship between Two Rectangles	306
<i>Wenli Wang, Xuhong Liu</i>	
Provable Security Against Differential Attacks for Generalized SPN Structures	311
<i>Ruya Fan</i>	
An Effective Visual Attention Mechanism	320
<i>Zhuanghui Wu, Guoheng Huang, Lianglun Cheng</i>	
Task Assignment in Business Processes Based on Completion Rate Evaluation	326
<i>Tingting Zheng, Jiexuan Chen, Yingchi Huang</i>	
Collision Avoidance Algorithm for Unmanned Surface Vehicle Based on Improved Artificial Potential Field and Ant Colony Optimization	334
<i>Wen Ou, Xuan Guo</i>	
Mode-selective Absorption for Spectrum Shaping	348
<i>De He, Zhijun Liu</i>	
The Application Research of Ant Colony Algorithm for Prediction of Bridge Deflection	354
<i>Xifeng Chen, Zefeng Chen, Shuangjian He, Xiaobo Feng</i>	
An Industrial Control Intrusion Detection Method Combining Semi-supervised LDA and PSO-SVM	363
<i>Liu Zhan, Jie Ling, Peng Lin</i>	
Crystal Morphology Monitoring based on In-situ Image Analysis of L-glutamic Acid Crystallization	371
<i>Zhimao Lu, Lin Zhang, Yongming Jiang, Chi Zhang, Guijuan Zhang, Mengzhu Liu</i>	

The Pose Adjustment System of Robotic Arm Adopts Binocular Vision and Machine Learning	391
<i>Yabing Ren, Hongyang Yu</i>	
Object Recognition and Location Based on Mask R-CNN and Structured Light Camera	402
<i>Weipeng Mao, Hongyang Yu</i>	
Design and Implementation of Ultrasonic Transducer Detection System Based on STM32.....	409
<i>Cong Wu, Dan Liu</i>	
A General Means for Depth Data Error Estimation of Depth Sensors	418
<i>Qian She, Hongyang Yu</i>	
Logistics Management System Based on Permissioned Blockchains and RFID Technology	426
<i>Rong Wang, Wei-Tek Tsai, Juan He, Can Liu, Qi Li, Enyan Deng</i>	
Connotation and Application of Human-like Smart City.....	433
<i>Chunsheng Zhang, Guoguang Wang, Zhitong Hou, Zhen Wang, Han Yu</i>	
The Influence of the Interface Characteristics of Street in Historical and Cultural blocks on the Vitality of the Block	441
<i>Qian Zeng, Mingyan Zhang, Fen Yuan</i>	
Energy Consumption Status and Analysis of Public Buildings in Qingdao	448
<i>Gang Wang, Liyan Shao, Lelin Fu</i>	
Planning and Spatial Characters of Zhongshan Road District in Shenyang	455
<i>Yidan Liu, Yiping Zhang, Jing Zhang</i>	
Research on the Behaviour of Public Bicycles in Suzhou City.....	459
<i>Tianyu Hu, Yong Zhang</i>	
Study on Traditional Model of Rainwater Harvesting and Utilization in Guanzhong Area of Shaanxi Province	465
<i>Jin Fu, Bangyan Li</i>	
Explore the Protection and Development of Zhongshan Road Historic Block in Qingdao from the Perspective of Urban Spatial Structure Renewal.....	470
<i>Yakun Wang</i>	
Reconstructing the Paleoenvironmental Record of the Wuqi Paleolake in the Northern Chinese Loess Plateau	476
<i>Jiao Guo, Jiansheng Shi, Qiuyao Dong, Wei Wang</i>	
Study on Assessment Method for Heat Resistance of Heat-Resistant Polymer Admixture for well Cementation Based on Ubbelohde Viscosity Meter	485
<i>Yonghua Gao, Baosheng Zhen, Lei Liu, Shichao Zhang, Guangpeng Xu, Qibing Wu</i>	
High Precision and Pose Estimation Based on Improved Point Cloud Algorithm for Noncooperative Targets.....	493
<i>Liang Wei, Jia Liu, Guiyang Zhang, Ju Huo</i>	
Wavelet Transform and Stacked Sparse Autoencoder Network Based Location Method of Cable Incipient Fault.....	500
<i>Shenghui Li, Xue Bai, Henan Dong</i>	
A Waterway Monitoring Method of Unmanned Surface Vehicle Based on Deep Learning	510
<i>Yiheng Wu, Xing Li, Zhangjie Yin, Jian Li, Yan Zhou</i>	
Research on Network Public Opinion Analysis Based on Improved K-means Algorithm	515
<i>Mingzhong Qi, Xiongwei Li</i>	
Research and Comparison of Laser Radar Vehicle Self-organizing Network Routing Strategy	521
<i>Zhiqiang Kong, Dong Zhou, Yongxin Xu</i>	
Random Forest Algorithm Based on Genetic Algorithm Optimization for Property-Related Crime Prediction	526
<i>Tuo Shi, Gao He, Yulei Mu</i>	
A Static Detection of Inter-Component Communication Vulnerability in Android Application.....	532
<i>Yutong Chen</i>	
An Android malware detection Approach based on Weisfeiler-Lehman Kernel.....	538
<i>Jie Ling, Fangye Chen</i>	
Research on Smart Environmental Protection IoT Application Dased on Edge Computing.....	546
<i>Xiaobo Zhang, Zhangqin Huang</i>	
Actor-based Model for Concurrent Byzantine Fault-tolerant Algorithm.....	552
<i>Chi Zhang, Rong Wang, Wei-Tek Tsai, Juan He, Can Liu, Qi Li</i>	
A Trusted Supply Chain Management System Based on Permissioned Blockchains	559
<i>Rong Wang, Wei-Tek Tsai, Juan He, Can Liu, Qi Li, Enyan Deng</i>	
Text Generation Based on Empathetic Dialogues between Nurses and Patients.....	569
<i>Wenxu Shi, Zuyue Shang, Shengli Bao, Guoyong Li</i>	
Incompressible Projective Smooth Particle Hydrodynamic.....	579
<i>Jian Chen</i>	

Research on Network Navy Behavior in the Field of Electronic Commerce	587
<i>Xiaohan Xi, Yingding Zhao</i>	
Human Pose Estimation Based on Improved Hourglass Networks	593
<i>Xiaojun Bi, Xuelian Zou</i>	
Secret Sharing Based On Bilinear Mapping	602
<i>Caijen Wang, Shunchang Su</i>	
Adaptive Image Retrieval Based on Multi-Feature Fusion	608
<i>Xiaoqian You, Jianghua Si</i>	
Research on Influence of Rail Fastener Failure on Vertical Interaction between Wheel and Rail	613
<i>Daolai Cheng, Xiaoxue Wu, Peigang Li, Peng Shen</i>	
Imaging Model of Missile-borne Linear Array Scanning Lidar Based on a Fast Algorithm for Ray Intersection	619
<i>Qishu Qian, Yihua Hu, Nanxiang Zhao, Minle Li, Fucui Shao</i>	
An Analysis on Optimizing Full and Part Routes of Urban Rail Transit under Peak Times	627
<i>Jing Li, Mei Han, Guifeng Gao, Yifang Yan, Zijian Wang</i>	
Elevator Group Control Method Based on Face Recognition	635
<i>Mingji Yang, Zhen Huang</i>	
A Space Station Dynamic Mission Planning Based on Multi-objective Constraint Values	641
<i>Dan Chen, Wei Cheng, Yanchao Gao</i>	
A New Object Detection Method in Indoor Scenes Based on Spatial Distance Clustering	650
<i>Dianyuan Wu, Kai Xu</i>	
Decision Algorithm for Heterogenous Internet of Vehicles	655
<i>Qiong Wu, Xinmiao Lu, Ya Wang</i>	
A Novel Maze Representation Approach for Finding Filled Path of A Mobile Robot	664
<i>Changgang Zheng, Han Liu, Mengyu Ge, Yilin Liu</i>	
A Pre-distortion Method For 64APSK	674
<i>Zijian Li, Jinshu Chen</i>	
Research on 3D Measurement Technology of Substation Based on Monitoring Image Processing	680
<i>Dawei Wang, Gang Yang, Na Zhang, Tao Jin, Yu Han, Haihong Li</i>	
Human Action Recognition on Cellphone Using Compositional Bidir-LSTM-CNN Networks	687
<i>Jiahao Wang, Qiuling Long, PiRah, Kexuan Liu, Yingzi Xie</i>	
Traction of Students' Curriculum Information Based on Association Rule Optimization	693
<i>Zhe Zhou, Yong Ouyang, Yawen Zeng</i>	
Influencing Factors of Continuous Participation Behavior of Crowdsourcing Logistics Contractors	699
<i>Yinyan Zhang</i>	
Research on Furniture Distribution and Installation Vehicle Scheduling Considering Multiple Service Modes	706
<i>Hongwei Zhou</i>	
Operation Organization of Express/Local Train for Urban Rail Transit	713
<i>Yang He, Leyi Wang</i>	
Analysis of Influence of Underpass Express Way on Elevated Railway's Displacement	719
<i>Peng Li, Qingwen Ma, Xufeng Wei</i>	
Study on Safe and Anti-collision Measures Towards Expressway of Underpass	726
<i>Peng Li</i>	
Author Index	