Contents

Algorithms and Programming

Ford Motor Side-View Recognition System Based on Wavelet Entropy and Back Propagation Neural Network and Levenberg-Marquardt Algorithm .................................................. 3
  Wen-Juan Jia, Shuihua Wang, Huimin Lu, Ying Shao, Elizabeth Lee, and Yu-Dong Zhang

Intrusion Detection Based on Self-adaptive Differential Evolution Extreme Learning Machine with Gaussian Kernel .................................................. 13
  Junhua Ku and Bing Zheng

Prediction for Passenger Flow at the Airport Based on Different Models ........ 25
  Xia Liu, Xia Huang, Lei Chen, Zhao Qiu, and Ming-rui Chen

Election Based Pose Estimation of Moving Objects ........................................ 41
  Liming Gao and Chongwen Wang

A Novel Topology Reconfiguration Backtracking Algorithm for 2D REmesh Networks-on-Chip .................................................. 51
  Na Niu, Fang-Fa Fu, Hang Li, Feng-Chang Lai, and Jin-Xiang Wang

User Behaviour Authentication Model Based on Stochastic Petri Net in Cloud Environment .................................................. 59
  Peng Li, Cheng Yang, He Xu, Ting Fung LAU, and Ruchuan Wang

Performance Prediction of Spark Based on the Multiple Linear Regression Analysis .................................................. 70
  Lu Dong, Peng Li, He Xu, Baozhou Luo, and Yu Mi

CTS-SOS: Cloud Task Scheduling Based on the Symbiotic Organisms Search .................................................. 82
  Zhenpeng Liu, Xiaodan Liu, Yawei Dong, Xuan Zhao, and Bin Zhang

Exploration of Heuristic-Based Feature Selection on Classification Problems .................................................. 95
  Qi Qi, Ni Li, and Weimin Li

AGSA: Anti-similarity Group Shilling Attacks .................................................. 108
  Peng Wang, Lingtao Qi, Haiping Huang, Feng Li, and Congxiang Yu
The Study of the Seabed Side-Scan Acoustic Images Recognition Using BP Neural Network

Hongyan Xi, Lei Wan, Mingwei Sheng, Yueming Li, and Tao Liu

Node Localization of Wireless Sensor Network Based on Secondary Correction Error

Xiaoxu Ma, Wenju Liu, and Ze Wang

Optimizations of the Whole Function Vectorization Based on SIMD Characteristics

Yingying Li, Yuchen Gao, Dong Wang, Yanbing Li, and Jinlong Xu

A Stacked Denoising Autoencoders Based Collaborative Approach for Recommender System

Baojun Niu, Dongsheng Zou, and Yafeng Niu

Research on Adaptive Canny Algorithm Based on Dual-Domain Filtering

Xiaijiong Shen, Xiaoyu Duan, Daojun Han, and Wanli Yuan

A Dynamic Individual Recommendation Method Based on Reinforcement Learning

Daojun Han, Xiaijiong Shen, Tian Gan, and Ruiqing Cai

Research on the Pre-distribution Model Based on Seesaw Model

Mingshan Xie, Yanfang Deng, Yong Bai, Mengxing Huang, and Zhuhua Hu

An Efficient Filtration Method Based on Variable-Length Seeds for Sequence Alignment

Ruidong Guo, Haoyu Cheng, and Yun Xu

An Optimized Fusion Method for Double-Wearable-Wireless-Band Platform on Cloud-Health Application

Wenchao Xu, Yanbo Liu, Yanqin Yang, Xiaoshuang Ning, Tianxing Chu, and Hongzhi Song

Research on Concept Drift Detection for Decision Tree Algorithm in the Stream of Big Data

Shangdong Liu, Lili Lu, Yongpan Zhang, Tong Xin, Yimu Ji, and Ruchuan Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of Various Strategies for Gateway Discovery Mechanisms for Integrating Internet-MANET</td>
<td>247</td>
</tr>
<tr>
<td>Lin Yang, Zhijie Han, Rui Wang, and YongHang Yan</td>
<td></td>
</tr>
<tr>
<td>Research on Extraction Algorithm of Palm ROI Based on Maximum Intrinsic Circle</td>
<td>258</td>
</tr>
<tr>
<td>Gang Liu and Jing Zhang</td>
<td></td>
</tr>
<tr>
<td>Power Adaptive Routing Scheme with Energy Hole Avoidance for Underwater Acoustic Networks</td>
<td>268</td>
</tr>
<tr>
<td>Xian-yi Chen and Guo-lan Lin</td>
<td></td>
</tr>
<tr>
<td>A Lightweight Algorithm for Computing BWT from Suffix Array in Disk</td>
<td>279</td>
</tr>
<tr>
<td>Jing Yi Xie, Bin Lao, and Ge Nong</td>
<td></td>
</tr>
<tr>
<td>$H_\infty$ Filtering in Mobile Sensor Networks with Missing Measurements and Quantization Effects</td>
<td>290</td>
</tr>
<tr>
<td>Xueming Qian and Baotong Cui</td>
<td></td>
</tr>
<tr>
<td>A Cost-Effective Wide-Sense Nonblocking k-Fold Multicast Network</td>
<td>301</td>
</tr>
<tr>
<td>Gang Liu, Qiuming Luo, Cunhuang Ye, and Rui Mao</td>
<td></td>
</tr>
<tr>
<td>The Design of General Course-Choosing System in Colleges and Universities</td>
<td>311</td>
</tr>
<tr>
<td>Chunmin Qiu, Shaojie Du, and Bailu Zhao</td>
<td></td>
</tr>
<tr>
<td>Research on Vectorization Technology for Irregular Data Access</td>
<td>321</td>
</tr>
<tr>
<td>Wang Qi, Han Lin, Yao Jinyang, and Liu Hui</td>
<td></td>
</tr>
<tr>
<td>A New Simple Algorithm for Scrambling</td>
<td>335</td>
</tr>
<tr>
<td>Xing Zeng, Xiulai Li, Yali Luo, and Mingrui Chen</td>
<td></td>
</tr>
<tr>
<td>The Framework of Relative Density-Based Clustering</td>
<td>343</td>
</tr>
<tr>
<td>Zelin Cui and Hong Shen</td>
<td></td>
</tr>
<tr>
<td>Efficient Algorithms for VM Placement in Cloud Data Center</td>
<td>353</td>
</tr>
<tr>
<td>Jiahuai Wu and Hong Shen</td>
<td></td>
</tr>
<tr>
<td>Weighted One-Dependence Forests Classifier</td>
<td>366</td>
</tr>
<tr>
<td>Guojing Zhong and Limin Wang</td>
<td></td>
</tr>
<tr>
<td>Research and Realization of Commodity Image Retrieval System Based on Deep Learning</td>
<td>376</td>
</tr>
<tr>
<td>Cen Chen, Rui Yang, and Chongwen Wang</td>
<td></td>
</tr>
<tr>
<td>An Improved Algorithm Based on LSB</td>
<td>386</td>
</tr>
<tr>
<td>Yali Luo, Xiulai Li, Chaofan Chen, and Mingrui Chen</td>
<td></td>
</tr>
</tbody>
</table>
A Report on the Improvement of Information Technology Capability of Teachers in Primary and Middle Schools in Hainan Province ........... 393
   JingYu Luo, Zhao Qiu, Jian Zheng Hu, and Xia Wen Zhang

The Research of the Airport Retail Layout Based on the Location Model .... 400
   Han-tao Yang

Research on Model and Method of Relevance Feedback Mechanism in Image Retrieval .................................................. 410
   Xinying Li, Taijun Li, Feng Li, and Hongli Wu

Processing Redundancy in UML Diagrams Based on Knowledge Graph .... 418
   Yirui Jiang, Yucong Duan, Mengxing Huang, Mingrui Chen, Jingbin Li, and Hui Zhou

An Automatic Fall Detection System Based on Derivative Dynamic Time Warping .................................................... 427
   Hong Yang, Yanqin Yang, Wenchao Xu, and Yuxin Pang

On Signal Timing Optimization in Isolated Intersection Based on the Improved Ant Colony Algorithm ............................. 439
   Huang Min

Experiments on Neighborhood Combination Strategies for Bi-objective Unconstrained Binary Quadratic Programming Problem ........ 444
   Li Yuan Xue, Rong-Qiang Zeng, Wei An, Qing-Xian Wang, and Ming Sheng Shang

Porting Referential Genome Compression Tool on Loongson Platform .... 454
   Zheng Du, Chao Guo, Yi Jun Zhang, and Qiuming Luo

Statistics of the Number of People Based on the Surveillance Video ....... 464
   Zhao Qiu, Shi Yao Lei, Jian Zheng Hu, and Jing Yu Luo

Differential Privacy in Power Big Data Publishing .......................... 471
   Ping Kong, Xiaochun Wang, Boyi Zhang, and Yidong Li

Parallel Architectures

Parallel Aligning Multiple Metabolic Pathways on Hybrid CPU and GPU Architectures ..................................................... 483
   Yiran Huang, Cheng Zhong, Jinxiong Zhang, Ye Li, and Jun Liu

Speeding Up Convolution on Multi-cluster DSP in Deep Learning Scenarios ................................................................. 493
   Deng Wenqi, Yang Zhenhao, Lu Maohui, Wang Gai, Yang Jiang Ping, and Zheng Qilong
Optimization Scheme Based on Parallel Computing Technology .......................... 504
   Xiulai Li, Chaofan Chen, Yali Luo, and Mingrui Chen

Research on Client Adaptive Technology Based on Cloud Technology .......... 514
   Xiaojing Zhu

Resource Allocation and Energy Management Based on Particle Swarm Optimization .......................................................... 522
   Gang Mei, Mingrui Chen, and Xing Zhen

A Parallel Clustering Algorithm for Power Big Data Analysis ....................... 533
   Xiangjun Meng, Liang Chen, and Yidong Li

Customized Filesystem with Dynamic Stripe Strategies on Lustre-Based Hadoop .......................................................... 541
   Hongbo Li, Yuxuan Xing, Nong Xiao, Zhiguang Chen, and Yutong Lu

Research on Optimized Pre-copy Algorithm of Live Container Migration in Cloud Environment ................................................... 554
   Huqing Nie, Peng Li, He Xu, Lu Dong, Jinquan Song, and Ruchuan Wang

A Cost Model for Heterogeneous Many-Core Processor ................................. 566
   Yanbing Li, Qi Wang, Yingying Li, Lin Han, Yuchen Gao, and Qing Mu

Scalable K-Order LCP Array Construction for Massive Data ....................... 579
   Yi Wu, Ling Bo Han, Wai Hong Chan, and Ge Nong

A Load Balancing Strategy for Monte Carlo Method in PageRank Problem ....... 594
   Bo Shao, Siyan Lai, Bo Yang, Ying Xu, and Xiaola Lin

Experiences of Performance Optimization for Large Eddy Simulation on Intel MIC Platforms .................................................... 610
   Zhengxiong Hou, Chengwen Zhong, Christian Perez, Qing Zhang, and Yunlan Wang

Author Index ................................................................................................. 627
Parallel Architecture, Algorithm and Programming
8th International Symposium, PAAP 2017, Haikou, China, June 17-18, 2017, Proceedings
Chen, G.; Shen, H.; Chen, M. (Eds.)
2017, XV, 629 p. 299 illus., Softcover
ISBN: 978-981-10-6441-8