# TABLE OF CONTENTS

A Neural Network Enhanced Stereo Vision Obstacle Detection and Avoidance System for Unmanned Ground Vehicle ................................................................. 1
Fanjun Liu, Binggang Cao

Statistical Properties of Chinese Near-synonyms Network ...................................... 5
Jinze Li, Shuangwen Chen, Xiaoyue Luo, Peng Xiao, Jianyu Li, Hao Shen

The Application of Chaos Immune Genetic Algorithm in Sequencing Problem of Sports Meeting ................................................................. 9
Ying Pan

RESTful Digital Web Services for Market Price Forecasting with R: An Application on Equity Markets Using Garch Models ................................................................. 13
Mihai Calciu, Cristiana Tudor

Clustering the Tropical Wood Species Using Kohonen Self-Organizing Map (KSOM) ................................................................. 16
Ahmad Azlin, Yusof Rubiyah

IROTS: A Proposed COTS Evaluation & Selection Methodology for Component Based Software Engineering in Under-Development Countries ......................................... 20

Longitudinal Data Based Research on Web User Interests Drift Modeling ....................... 24
Huimin Li, Liying Fang, Pu Wang, Jianhao Yan

Computer Implementation for Analysis of Complex Masonry Shell Structures ................. 29
Jerzy Szohmicki, Piotr Berkowski

Knowledge-based Auto Repair Diagnosis System and Application .................................. 33
Xiaofen Fang, Kunli Fang, Jianliang Xu, Fan Yang

An Efficient Algorithm of Convex Hull for Very Large Planar Point Set ................. 37
Guangqian Fan, Liping Ma, Bingru Yu

Service Oriented Cost Accounting: Utilization-based Accounting and Charging of IT Service Costs ................................................................. 41
Christopher Schwarz, S. Schmidt, A. Seliner, E. Zinser

Structural Relaxation Solutions Formetallic Amorphous Condensed Lattice with Activation Energy Spectrum Model Applied Computational Physics .................. 45
Kazu Yamada

Test and Computer Modeling of Steel Braces for Earthquake-Resistant Structures: Dual-Core Self-Centering Brace and Sandwiched Buckling-Restrained Brace ................................................ 49
Chung-Chie Chou, Ying-Chuan Chen, Sheng-Yang Chen

High Resolution DOA Estimation Algorithm based on Nonuniform L-shaped Array ........ 54
Lanmei Wang, Zhilai Chen, Guibao Wang

An Energy-Efficient Data Placement Algorithm and Node Scheduling Strategies in Cloud Computing Systems ................................................................. 59
Yangwen Xiao, Jinhao Wang, Yaping Li, Hong Gao

An Efficient Biogeography Based Face Recognition Algorithm ..................................... 64
Deya Gupta, Lavika Goel, Abhishek Abhishek

Comparison of Modernization Approaches: With and Without the Knowledge Based Software Reuse Process ................................................................. 68
Jha Meena, Liam O'Brien

A Dynamic Quality-Based Harmony Search Algorithm for Solving Constrained Engineering Optimization Problems ................................................................. 72
Ali Kattan

Malicious Website Detection Based on Honeypot Systems ........................................ 76
Tung-Ming Koo, Hung-Chang Chang, Ya-Ting Hsu, Huey-Yeh Lin

Effectiveness Evaluation of Software Protection based on SAMMPN ......................... 83
Huajun Wang, Dingyi Fang, Ni Wang, Yuaqiang Gu

Stability of the Forest Evolution System with Growth Functions .................................... 87
Huihui Bai, Dingjiang Wang

Path Planning of a Mobile Robot Using Real-coded Genetic Algorithm Based Simultaneous Exploration ................................................................. 91
Chih-Jer Lin, Yen-Lin Chen, Cheng-Hsin Liu, Shenkai Yu

Analysis of the Selected Aspects of a Crash between Two Vehicles .................................. 95
Jerzy Kisilowski, Jaroslaw Zalewski

Accelerometer-based Energy Expenditure Estimation Methods and Performance Comparison ................................................................. 101
Fang-Chen Chiang, Ya-Ting C. Yang, Jien-Shing Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Scientific Cloud Computing Workflows — SC2IT: A Toolkit to Bring Novel Computational Science to Non-specialists</td>
<td>106</td>
</tr>
<tr>
<td>Task Level Parallelization of All Pair Shortest Path Algorithm in OpenMP 3.0</td>
<td>111</td>
</tr>
<tr>
<td>A Venture Capital Assessment Model based on the Genetic Neural Network</td>
<td>115</td>
</tr>
<tr>
<td>Nonlinear Cointegration Analysis Based on Support Vector Machines and Its Application to the Connection between Financial Markets</td>
<td>119</td>
</tr>
<tr>
<td>AVenture Capital Assessment Model based on the Genetic Neural Network</td>
<td>115</td>
</tr>
<tr>
<td>Task Level Parallelization of All Pair Shortest Path Algorithm in OpenMP 3.0</td>
<td>111</td>
</tr>
<tr>
<td>The Design and Implementation of Cloud Storage System Based on Hiphop-php</td>
<td>135</td>
</tr>
<tr>
<td>Research on Virtual Interactive Sand Table for Showing of Energy Conservation Data</td>
<td>139</td>
</tr>
<tr>
<td>The Design and Implementation of Cloud Storage System Based on Hiphop-php</td>
<td>135</td>
</tr>
<tr>
<td>Research on Virtual Interactive Sand Table for Showing of Energy Conservation Data</td>
<td>139</td>
</tr>
<tr>
<td>Nonlinear Cointegration Analysis Based on Support Vector Machines and Its Application to the Connection between Financial Markets</td>
<td>119</td>
</tr>
<tr>
<td>The Analysis of Curriculum Teaching Methods of VB Programming</td>
<td>148</td>
</tr>
<tr>
<td>Various New Methods of Implementing AVK</td>
<td>151</td>
</tr>
<tr>
<td>The Research on Attack Threat Sensing based on &quot;Software Security Sensor&quot;</td>
<td>172</td>
</tr>
<tr>
<td>Shortening of the Automata Cycle of Industrial Communication System Nodes</td>
<td>176</td>
</tr>
<tr>
<td>Study on Chebyshev FIR Filters in Airborne Gravity Data Processing</td>
<td>183</td>
</tr>
<tr>
<td>Sequential QoS Mapping Model for Multi-layer Video Delivery in 802.11e Wireless Networks</td>
<td>188</td>
</tr>
<tr>
<td>Low Voltage Ride through Capability Improvement of DFIG using Feed Forward Current Regulator</td>
<td>193</td>
</tr>
<tr>
<td>Using Fuzzy Inference System to Develop an Optimal Tube Voltage and Tube Current Chart for Radiation Reduction in Pediatric CT Examinations</td>
<td>198</td>
</tr>
<tr>
<td>S-wane Model Designed to Improve Security Association Negotiation Process in IPv6</td>
<td>206</td>
</tr>
<tr>
<td>Survivability-Oriented APT Penetration Analysis</td>
<td>211</td>
</tr>
<tr>
<td>Energy Aware Battery Powered Electric Vehicles: A Predictive Model Driven Approach</td>
<td>215</td>
</tr>
<tr>
<td>Lightweight Model Driven Process to Ensure Model Traceability and a Case for SYSMOD</td>
<td>221</td>
</tr>
<tr>
<td>Application of Parallel-hierarchical Transformations for Rapid Recognition of Dynamic Images Based on GPU Technology</td>
<td>226</td>
</tr>
<tr>
<td>Online Handwriting Recognition Using an Accelerometer-Based Pen Device</td>
<td>231</td>
</tr>
</tbody>
</table>
A Novel Causal Model Based Distributed Fault Detection Method For Locomotive Electric Traction System .......................... 235
Shu Cheng, Te-Fang Chen, Wei Li, Rong-Jun Ding

Design of a Control System of Single-Head Pneumatic Hinging Machine Based on STC90C58 .......................... 241
Yu Xie

Reducing Falsely Detected JPEG’s Fragmentation Point Using Unique Hex Patterns (UHP) .......................... 246
Abdullah Nurul Azma, Ibrahim Rosziati, Mohamad Kamaruddin Malik, Hamid Norhamreeza Abdul

Research on LBS-based Optimizing Personal Recommendation System .................................................. 251
Enhui Li, Xin Chen, Taitian Hao, Xiangling Fu

The Analysis and Test for the Steering Process of Tracked Vehicles on the Hard Road .......................... 256
Hong-Yan Wang, Hao-Zhan Li, Tao Wang, Qiang Rui, Guang-Ming Zhou, Yi Yuan

Automatic Panorama Recognition and Stitching Based on Graph Structure .................................................. 261
Yi-Li Zhao, Yan Xiao

Using of Polar Codes in Steganography .................................................. 264
Idy Diop, Birahime Diouf, Sidi Mohamed Farssi, K. Tall, P. A. Fall, A. K. Diop, K. Sylla

Lin Qiu, Jiaxiong Xu

Research of Web Information Quality Control Based on Informatics Theory: Applied in Water Resource Search Engine .................................................. 273
Yimin Gao, Feng Ye

Design and Implementation of a High-Speed Data Transmission System Based on PCI-Express Protocol .................................................. 277
Yang Xing, Qiong-Zhi Wu, Xin-Ran Yang, Fu-Shun Su

Digital Riemannian Geometry and Its Application .................................................. 281
Guohua Chen

Generating Power-Efficient Query Execution Plan .................................................. 286
Xiaowei Liu, Jinhao Wang, Haijie Wang, Hong Gao

Analysis of the Difficulties of the Earth Integrated Information Network .................................................. 291
Ying Ding, Hai-Yang Yu, Hui-Lin Jiang, Yuan Hu, Yi-Feng Zhu, Li-Gang Cong

A Novel GPS/DR Integrated Navigation System for Electronic Road Pricing .................................................. 295
Zhenhua Yu, Guangwen Yang

Grey and Fuzzy Evaluation of Information System Disaster Recovery Capability .................................................. 300
Chunyang Yuan, Jiaxin Li, Ru Zhang, Jianyi Liu

Low Complexity Frequency Offset Estimation for FMCW Radar .................................................. 305
Jinyong Lee, Jingu Lee, Youngseh Kim, Kanghoon Kim, Younglok Kim

Rough Terrain Perception Through Geometric Entities for Robot Navigation .................................................. 309
Roberto Valencia-Murillo, Nancy Arau-Daniel, Carlos Lopez-Franco, Alma Y. Alanis

Improving Performance of Classifiers using Rotational Feature Selection Scheme .................................................. 315
Shib Sankar Bhowmick, Indrajit Saha, Luis Rato, Debotosh Bhattacharjee

Does 4G Technology Trigger the S-commerce Era Coming Evidence from Taiwanese ICT Market .................................................. 321
Ming-Yuan Hsieh, Chih-Cheng Huang, Kuang-Yu Huang, Hsiu-Wei Hsu

Gossip-Pull System-based Dissemination Protocol Satisfying Message Causality Condition .................................................. 325
Jinho Ahn, Cha-Young Kim

An Examination of the Concept of Smart School: An Innovation to Address Sustainability .................................................. 328
Siavash Omidinia, Maslin Masrom, Harichodon Selamat

Relationship between Capital Structure and Performance Evidence based on Information Technology Industry .................................................. 332
Chunhua Wang, Meiyan Song

A New Call Admission Control Strategy for LTE Femtocell Networks .................................................. 336
Jie Wang, Yangfan Qiu

The Research on NSC Key Service Mechanism in Mobile Network .................................................. 341
Chenhe Zhu, Zhiyi Fang, Ying Wang, Qian Xu, Borsui Jin

Study on Information Service Push Strategy based on Networked Manufacture .................................................. 345
Xiuzhen Feng, Chao Su

Research on the Application of Information Technology in School Sports .................................................. 349
Yunyun Du

Author Index