

Table of Contents

On Efficiency of Solutions of Stochastic Optimal Control Problem with Discrete Time <i>Igor I. Gasanov and Iouldouz S. Raguimov</i>	1
FlashTKV: A High-Throughput Transactional Key-Value Store on Flash Solid State Drives <i>Robin Jun Yang and Qiong Luo</i>	5
Control Software Visualization <i>Federico Mari, Igor Melatti, Ivano Salvo, and Enrico Tronci</i>	15
Parallel Interference Cancellation in DS-OCDMA System Using Novel Multilevel Periodic Codes <i>Besma Hammami, Habib Fathallah, and Houria Rezig</i>	21
Using Embedded FPGA for Cache Locking in Real-Time Systems <i>Antonio Marti Campoy, Francisco Rodriguez-Ballester, and Rafael Ors Carot</i>	26
Discovery & Refinement of Scientific Information via a Recommender System <i>Robert Patton, Thomas Potok, and Brian Worley</i>	31
Enabling Dynamical Use of Integrated Systems and Scientific Supercomputing Resources for Archaeological Information Systems <i>Claus-Peter Ruckemann</i>	36
Nonlinear Transformation's Impact Factor of Cryptography at Confusion and Cluster Process <i>Lan Luo, Zehui Qu, Yalan Ye, Tao Lv, and Qionghai Dai</i>	42
Decoupling Modeling From Complexity Based on a Freedom-to-Act Architecture <i>Udo Inden, Sergej Naimark, and Claus-Peter Ruckemann</i>	47
A Neural Network Ultrasonic Sensor Simulator for Evolutionary Robotics <i>Christiaan J. Pretorius, Mathys C. du Plessis, and Charmain B. Cilliers</i>	54
Biometric Security Systems for Mobile Devices Based on Fingerprint Recognition Algorithm <i>Michal Szczepanik and Ireneusz Jozwiak</i>	62
3D Measures Computed in Monocular Camera System for Fall Detection <i>Konstantinos Makantasis, Anastasios Doulamis, and Nikolaos Matsatsinis</i>	68
FlexRay Static Section Scheduling Using Full Model <i>Rim Bouhouch, Houda Jaouani, Wafa Najjar, and Salem Hasnaoui</i>	74

Analyzing the Trade-offs Between Minimizing Makespan and Minimizing Energy Consumption in a Heterogeneous Resource Allocation Problem <i>Ryan Friese, Tyler Brinks, Curt Oliver, Howard Jay Siegel, and Anthony A. Maciejewski</i>	81
Design and Implementation of Context-aware Hadoop InputFormat for Large-scale Scientific Dataset <i>Jae-Hyuck Kwak, Jun Weon Yoon, and Soonwook Hwang</i>	90
Boundaries of Supercomputing <i>Lutz Schubert and Stefan Wesner</i>	94
A Framework for Migrating Traditional Web Applications Into Multi-Tenant SaaS <i>Eyad Saleh, Nuhad Shaabani, and Christoph Meinel</i>	100
Bandwidth-Efficient Parallel Visualization for Mobile Devices <i>Andreas Helfrich-Schkarbanenko, Vincent Heuveline, Roman Reiner, and Sebastian Ritterbusch</i>	106
High-Performance Network Accommodation and Intra-Slice Switching Using a Type of Virtualization Node <i>Yasusi Kanada, Kei Shiraishi, and Akihiro Nakao</i>	113
A First Look at AMI Traffic Patterns and Traffic Surge for Future Large Scale Smart Grid Deployments <i>Yaling Nie and Yuanchen Ma</i>	120
A Platform for the Integrated Management of IT Infrastructure Metrics <i>Christian Straube, Wolfgang Hommel, and Dieter Kranzlmuller</i>	125
Design, Development and Implementation of a Hybrid Network with Smart Sensors and Power Line Communication for Monitoring of Underground Electricity Substation <i>Paulo Sausen, Airam Sausen, Mauricio de Campos, Camila Gehrke, Rene Emmel Jr., and Fabiano Salvadori</i>	130
Computing Individual Mobility Profiles From Mobile Phone Usage Traces <i>Miguel Angel Rodriguez-Crespo, Ana Armenta-Lopez-de-Vicuna, Alberto Martin-Dominguez, Rocio Martinez-Lopez, and Ruben Lara-Hernandez</i>	136
User Involvement and Social Networking for Information System Development <i>Malgorzata Pankowska</i>	142
A New Approach To Solve Aircraft Recovery Problem <i>Congcong Wu and Meilong Le</i>	148
A Semi-Supervised Approach for Industrial Workflow Recognition <i>Eftychios Protopapadakis, Anastasios Doulamis, Konstantinos Makantasis, and Athanasios Voulodimos</i>	155
Analysis of Network Heterogeneity by Using Entropy of the Remaining Degree Distribution	161

Lu Chen, Shin'ichi Arakawa, and Masayuki Murata

Understanding Virtualized Infrastructure in Grid Job Monitoring 167
Zdenek Sustr and Jiri Sitera

A Layered Multi-Tree IP Multicast Protocol With Network Coding 171
Yining Li, Jinguo Quan, Xuelei Tan, and Hui Li

Performance Evaluation of a Planar Layout of Data Vortex Optical Interconnection Network 176
Qimin Yang

An Efficient Scheduling in Consideration of the Signaling Overhead for Relay Networks 182
Deokhui Lee and Jaewoo Soo