

Editorial

CIT's year 2013 last issue brings papers from the Journal's regular section. It consists of six contributions spanning a wide scope, from distributed platforms, security, image processing, supply chain management and up to profitability evaluation of air transport.

In the first paper of the issue, titled *An Extended Model for Multi-Criteria Software Component Allocation on a Heterogeneous Embedded Platform*, Ivan Švogor, Ivica Crnković and Neven Vrček describe a genetic algorithms approach to optimal distribution of tasks on a heterogeneous distributed system, which takes into account such inherent aspects like memory, processing and communication parameters of tasks, along with the corresponding constraints of the target system. They corroborate the research with an example for an autonomous underwater vehicle's control application.

Two papers that follow are from the broader area of security. The first, *Enhancing the Security Level of SHA-1 by Replacing the MD Paradigm* by Harshvardhan Tiwari and Krishna Asawa, addresses cryptographic hash functions, which are important cryptographic techniques widely used in many cryptographic applications and protocols. The authors propose a modification of the classical hash function SHA-1 that uses an additional input to the compression function generated by a pseudo-random function, resulting in a better hash protocol, named DSHA-1. The other paper, *Relationships Between Relevant Contextual Influences and Information Security Threats and Controls in Global Financial Services Industry* by Princely Ifinedo, approaches the managerial aspect of security. It targets the relationships among four contextual factors within the Global Financial Services Industry (GFSI), i.e. national legal infrastructure, transparency levels, ethical behavior of firms, and capacity for innovation, on the one hand, and information security threats and controls, on the other. The findings of the paper show that IT security policies and practices should take into account existing significant regional differences in addition to industry standards.

In the paper *Unsupervised Color Image Segmentation Based on Non Parametric Clustering*, Imène Kirati and Yamina Tlili present a novel segmentation model based on probabilistic clustering. This unsupervised model takes advantage of the robustness of non-parametric clustering, and generates both an initialization of classes and approximate number of segments. The method was tested on the Berkeley image database and the results were compared to the state-of-the-art segmentation methods described in the literature.

Mohamed Elhadi Bounif and Mustapha Bourahla propose a global optimization algorithm to support decision making for Supply Chain Management in their paper titled *Decision Support Technique for Supply Chain Management*, which is based on a combination of simulation and optimization based on genetic algorithms. This approach differs from traditional optimization in the area, since it does not consider only parts of a supply chain.

The last paper of the issue addresses a novel approach to evaluation of airline profitability. *Evaluating Profitability Based on Integrated Method: A Case Study of Chinese Listed Airlines and Airports* by Zhi-yuan Li, Chong Wu, Xin-ying Zhang and Yujin Li targets Chinese aviation operation by evaluating a number of airlines and airports listed in the China Shanghai and Shenzhen Stock

Market. They introduce an integrated multi-step method, which consists of a set of initial analyses and evaluations of profitability; in the case of consistent results, standardization and ranking of the obtained scores follow, giving final profitability ranking of listed Chinese Airports/Airlines. Using this new approach, the authors claim to have obtained more comprehensive, realistic and objective results, which overcome the one-sidedness of particular single methods in profitability evaluation.

Vlado Glavinić

Editor-in-Chief