Special Issue Dedicated to the 2nd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence

Editorial

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The current issue contains 9 papers presented at the 2nd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence, Timişoara, Romania, May 12-14, 2005.

The topic of the Symposium on Applied Computational Intelligence is the integration of Computational Intelligence techniques with applications in several fields. As joint Romanian-Hungarian Symposium SACI serves as a bridge between the scientific communities of these countries working in the topic of Computational Intelligence.

The International Program Committee, after a careful check, has accepted 44 papers for oral presentation and for publication in the proceedings of the conference.

After a preliminary selection made by the section chairs and the International Program Committee, we have selected 9 papers for publishing here in extended form. A highly-qualified international Scientific Committee carefully evaluated each work, and finally these papers were accepted to be published in the current Special Issue of the journal Studies in Informatics and Control.

We would like to express our thanks to our sponsors, the organizers and mainly to the participants, who made possible this very nice conference SACI 2005. Also, we express our thanks to the Editors of the journal Studies in Informatics and Control for publishing this Special Issue.

In what follows we will briefly describe each paper.

N. Robu, V. Stoicu-Tivadar, I. Silea, L. Stoicu-Tivadar, D. Berian, A. Albua and G. Vlasiu address in their contribution several aspects of building an integrated Regional E-administration system by using an incremental approach. The system described in this paper is based on Lotus Technology and ensures the link between the Timiş County Council and the local administration.

J. Tick and J. Fodor study in their contribution some binary operations in approximate reasoning. Based on the axiomatics of generalized modus ponens (GMP), a system of functional equations is obtained.

Idempotent as well as non-idempotent conjunctions fulfilling this system are studied. The obtained results support the use of non-commutative and non-associative conjunctions and the corresponding implications in approximate reasoning.

N. Morariu and S. Vlad discuss in their paper the design and management of a data and knowledge base for vegetal genetics, dedicated to the educational and research institutions in this field. Data is fed into the system's database within a predefined evolutionary self developing structure, by using Pattern Recognition and Classification Techniques.

Zs. Preitl and R. Bars propose in their paper a control design method suitable for both stable and unstable plants. The proposed control design method is based on Youla parameterization and modulus optimum criterion or methods derived from this one.

S. C. Negulescu, C. B. Zamfirescu and B. E. Bărbat propose and investigate in their contribution the methods that are enabling user-driven solutions for finding out the form and parameters that influence the behavior of multi-agent systems.

I.J. Rudas and L. Horváth, propose in their contribution a structure for integrating intelligent decision support methodologies to engineering modeling systems, by introducing behavior descriptions to the modeled objects. Key method is extension of the feature principle to allow definition of comprehensive sets of application oriented entities by engineers.

M. Takács addresses in her paper a simulation-based operator evaluation method in fuzzy models. Such a method is necessary and useful since it allows the choice of the operators used on fuzzy sets. As an application distance-based operators are evaluated.

J.K. Tar presents in his paper an extension of the Modified Renormalization Transformation for Adaptive Control. The extension gives a whole family of parametric transformations in which two parameters, a "multiplicative" and a "shift" parameter are present. It is shown that the fact of the convergence is robust against the variation of these parameters.

R.E. Precup and S. Preitl propose a new development method dedicated to a class of fuzzy control systems containing Takagi-Sugeno PI-fuzzy controllers. The method consists of relatively simple steps that use the prediction of the limit cycles on the basis of the gain-phase margin analysis and on the design results from the linear case.