

# Editorial

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We are proud to present the first issue of CIT, a new journal in the broad field of computing and information technology.

With the current proliferation of journals, often overlapping in fields covered and in the intended audience, the question might be raised, why start another one?

While natural inclination of every researcher is to follow the developments in the field of his or her professional interest, there is an evident need to be informed about new developments in the broader range of pertinent disciplines. It is not only a question of cultural need to expand professional horizons, but also an interest in methods developed and used in other areas, which might prove to be even technically useful. Besides researchers, such a forum may attract both scholars and nonacademics, enabling them to find under one cover a cross-section of research and advanced application in key branches of science connected with information technology.

CIT will also pay attention to educational, social, legal and managerial aspects of computing and information technology. We hope this will contribute to the exchange of ideas, experience and knowledge between regions of different technological and cultural backgrounds. Therefore, besides theoretical papers from academic circles, we shall encourage case studies describing significant applications, as well as critical evaluations of theory. In all cases, care for relevance and quality of presented papers will be the foremost editorial priority.

Although this first issue contains little but contributed papers, we shall encourage and gradually introduce survey papers, tutorial expositions, technical notes and letters, book reviews and events. We start with just a few book reviews and an event announced, hoping that these subjects will be covered more appropriately when CIT be-

comes better known among researchers and professionals in the field.

The Croatian Professional Newsletter on Computing and Information Technology is an integral part of this journal, edited by a separate group of editors, including its own Editor-in-Chief. Some of the papers and information of general interest will appear in it in English, while the rest will be in Croatian. This will enable questions such as terminology, which is important to every language, to be discussed, naturally, in the context of the Croatian language. English abstracts of these materials may arise a wish in some non-Croatian speaking readers to obtain some more translated information.

This first issue presents a first attempt in the intended direction. It contains six articles by academics from European and American universities covering a mixture of research and application topics.

*Grace Au* and *Ray J. Paul* present the environment for flexible modelling of ill-defined systems. The success of such, often needed, modelling strongly depends on good user interface and capability of simple and fast model change. The research system developed enables model building using graphical and/or textual editing, where graphical approach is based on model description by activity cycle diagrams.

The article by *Marios Angelides* and *Isabel Garcia* discusses an intelligent knowledge-based tutoring system designed to assist intermediate level students in practising Spanish grammar, designed to complement a human teacher, not to supplant him. The system architecture consists of three rule-based expert systems working in synergy with each other. It is developed as a domain-independent generic system and can be transferred to other languages by replacing lexical and grammatical knowledge-bases.

*Jaishankar Chakrapani* and *Jadranka Skorin-Kapov* present a novel parallel implementation of a tabu search algorithm for the travelling salesman problem. The well-known 2-opt move is decomposed into smaller parallel steps, on the connection machine CM-2, with a detailed description of the implementation and its performance.

The article by *Sašo Džeroski*, *Bojan Cestnik* and *Igor Petrovski* describes the usage of general Bayesian probability estimate, the  $m$ -estimate, in rule induction. The comparison of the performance of rules derived by using the Laplace and  $m$ -estimate is given in medical domains.

The paper by *Jurij Šilc* and *Borut Robič* discusses an experimental dataflow architecture and examines the problem of dataflow graph partitioning aiming to improve its efficiency. The new scheduling algorithm, called Global Arch Minimization is introduced.

The case study by *Iván Futó*, *András Góbor* and *József Temesi* presents in detail the rationale and the design trade-offs of a risk-assessment expert system developed for the organization of World Exposition to be held in Budapest in 1996.

The Croatian Professional Newsletter contains three articles.

*Leo Budin*, in a paper written in Croatian, raises some terminological issues related to taxonomy of computing and information science, in the context of the Croatian language.

The article by *Predrag Pale* presents the concept, organization and plans for further development of CARNet - a private TCP/IP network connecting Croatian universities between themselves and to Internet.

The paper by *Mirko Čubrilo* (in Croatian) presents an implementation of Aho-Korasick automata in Prolog, and their use in lexical analysis.

*Editors*