

## **Preface**

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This volume of the journal “Research in Computing Science” contains selected papers on soft computing methods and techniques. The papers were carefully chosen by the editorial board based on at least two reviews by the members of the reviewing committee of the volume.

Soft computing in a broad sense is the discipline that studies approximate and near-optimal techniques in computing. This is often the case in artificial intelligence and related fields: while finding the very exact solution is not feasible, a near-optimal solution is as good for any practical application as the exact one but can be achieved using fast and low-resource algorithms.

Good examples are genetic algorithms, fuzzy logic, and neural networks. Other examples include fields where the very representation of the corresponding knowledge and the evaluation criteria are so imprecise that it is not even clear how one can reason about exact solutions. An example of this kind of imprecision is natural language processing.

In this volume we included several papers related to search and optimization, such as a multi-agent approach to search service discovery, Particle Swarm Optimization approach to optimization in the inverse robot dynamic model, optimization of course time-tabling, and a novel approach to project scheduling based on musical composition analogy, among others.

We also included a number of papers related to image processing, such as recognizing medical magnetic resonance images and characterization and classification of images in food industry.

Finally, we included a set of papers on text, semantics, ontologies, and natural language dialogue, including the issues of knowledge representation in natural language and information extraction from natural language texts.

Some of the papers in this volume are related to medical topics, especially those papers on image processing techniques and on knowledge representation with ontologies.

The volume will be useful to researchers, students, and general public interested in artificial intelligence and its practical applications.

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