

Preface

These volumes constitute the Proceedings of the 6th International Workshop on Soft Computing Applications, or SOFA 2014, held during 24–26 July 2014 in Timisoara, Romania. This edition was organized by the University of Belgrade, Serbia in conjunction with the Romanian Society of Control Engineering and Technical Informatics (SRAIT)—Arad Section, The General Association of Engineers in Romania—Arad Section, Institute of Computer Science, Iasi Branch of the Romanian Academy, and IEEE Romanian Section.

Soft Computing concept was introduced by Lotfi Zadeh in 1991 and serves to highlight the emergence of computing methodologies in which the accent is on exploiting the tolerance for imprecision and uncertainty to achieve tractability, robustness, and low solution cost. Soft computing facilitates the use of fuzzy logic, neurocomputing, evolutionary computing, and probabilistic computing in combination, leading to the concept of hybrid intelligent systems.

The combination of such intelligent systems tools and a large number of applications introduces a need for a synergy of scientific and technological disciplines in order to show the great potential of Soft Computing in all domains.

The book covers a broad spectrum of soft computing techniques, theoretical, and practical applications employing knowledge and intelligence to find solutions for world's industrial, economic, and medical problems.

The conference papers included in these proceedings, published post conference, were grouped into the following areas of research:

- Image, Text and Signal Processing
- Intelligent Transportation
- Modeling and Applications
- Biomedical Applications
- Neural Network and Applications
- Knowledge-Based Technologies for Web Applications, Cloud Computing, Security, Algorithms and Computer Networks
- Knowledge-Based Technologies
- Soft Computing Techniques for Time Series Analysis

- Soft Computing and Fuzzy Logic in Biometrics
- Fuzzy Applications Theory and Fuzzy Control
- Business Process Management
- Methods and Applications in Electrical Engineering

In SOFA 2014 we had six eminent keynote speakers: Prof. Lakhmi C. Jain (Australia), Prof. Kay Chen Tan (Singapore), Prof. Ioan Dumitrache (Romania), Prof. Dan Ionescu (Canada), Prof. Sheryl Brahnam (USA) and Prof. Margarita Favorkaya (Russian Federation), and an interesting tutorial of Dr. Jakob Salom (Serbia). Their summarized talks are included in this book.

We especially thank the honorary chair of SOFA 2014, Prof. Lotfi A. Zadeh, who encouraged and motivated us.

We would like to thank the authors of the submitted papers for keeping the quality of the SOFA 2014 conference at high levels. The editors of this book acknowledge all the authors for their contributions and also the reviewers. We have received invaluable help from the members of the International Program Committee and the chairs responsible for different aspects of the workshop. We appreciate also the role of the Special Sessions organizers. Thanks to all of them we were able to collect many papers on interesting topics and had very interesting presentations and stimulating discussions during the workshop.

For their help with organizational issues of all SOFA editions, we express our thanks to TRIVENT Company, Mónika Jetzin, and Teodora Artimon for having customized the software Conference Manager, registration of conference participants, and all local arrangements.

Special thanks go to Janus Kacprzyk (Editor-in-Chief, Springer, *Advances in Intelligent Systems and Computing Series*) for the opportunity to organize this guest edited volume.

We are grateful to Springer, especially to Dr. Thomas Ditzinger (Senior Editor, *Applied Sciences & Engineering Springer-Verlag*) for the excellent collaboration, patience, and help during the evolution of this volume.

We hope that the volumes will provide useful information to professors, researchers, and graduate students in the area of soft computing techniques and applications and all will find this collection of papers inspiring, informative, and useful. We also hope to see you at a future SOFA event.

Romania
UK
Serbia

Valentina Emilia Balas
Lakhmi C. Jain
Branko Kovačević

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Balas, V.E.; Jain, L.C.; Kovačević, B. (Eds.)

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