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Preface

This volume constitutes the proceedings of the 7th Conference on Artificial Intelligence and Soft Computing, ICAISC 2004, held in Zakopane, Poland, June 7–11, 2004. The conference was organized by the Polish Neural Network Society in cooperation with the Department of Computer Engineering at the Technical University of Częstochowa, WSHE University in Łódź and IEEE Neural Networks Society. The previous conferences took place in Kule (1994), Szczyrk (1996), Kule (1997) and Zakopane (1999, 2000, 2002) and attracted a large number of papers and internationally recognized speakers: Prof. Lotfi A. Zadeh, Prof. Robert Marks, Prof. Enrique Ruspini, Prof. Zdzisław Bubnicki, Prof. Jacek Żurada, Prof. Shun-ichi Amari, Prof. Kaoru Hirota, Prof. Ryszard Tadeusiewicz, Prof. Shiro Usui, Prof. Włodzisław Duch, Prof. Erkki Oja, Prof. Syozo Yasui, Prof. Witold Pedrycz, Prof. Janusz Kacprzyk, Prof. Laszlo T. Koczy, Prof. Soo-Young Lee and Prof. Daniel Amit. The aim of this conference is to build a bridge between traditional artificial intelligence techniques and recently developed soft computing techniques. It was pointed out by Prof. Lotfi A. Zadeh that "Soft Computing (SC) is a coalition of methodologies which are oriented toward the conception and design of information/intelligent systems. The principal members of the coalition are: fuzzy logic (FL), neurocomputing (NC), evolutionary computing (EC), probabilistic computing (PC), chaotic computing (CC), and machine learning (ML). The constituent methodologies of SC are, for the most part, complementary and synergistic rather than competitive". This volume presents both traditional artificial intelligence methods and soft computing techniques presented in 14 parts:

1. Invited Papers
2. Neural Networks and Their Applications
3. Fuzzy Systems and Their Applications
4. Evolutionary Algorithms and Their Applications
5. Rough Sets and Their Applications
6. Soft Computing in Classification
7. Image Processing
8. Robotics
9. Multiagents Systems
10. Various Problems of Artificial Intelligence
11. Control, Modelling and System Identification
12. Medical Applications
13. Mechanical Applications
14. Various Applications

The conference attracted a total of 250 submissions from 35 countries and after the review process, 175 papers were accepted.

I would like to thank our participants, invited speakers and reviewers of the papers for their scientific and personal contribution to the conference. I also thank Alfred Hofmann editor-in-chief of Springer-Verlag's Lecture Notes in Computer Science/Artificial Intelligence series and Christine Günther from the LNCS Editorial for their cooperation in the preparation of this volume. Finally I thank my co-workers Jarosław Bilski, Marcin Gabryel, Marcin Korytkowski and Rafał Scherer, for their enormous efforts to make the conference a very successful event.

June 2004

Leszek Rutkowski
President of the Polish Neural Network Society

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ICAISC 04 was organized by the Polish Neural Network Society and the Department of Computer Engineering at Częstochowa University of Technology in cooperation with WSHE University in Łódź and the IEEE Neural Network Society.

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