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Lotfi A. Zadeh Jacek Zurada (Eds.)

Artificial Intelligence and Soft Computing – ICAISC 2006

8th International Conference
Zakopane, Poland, June 25-29, 2006
Proceedings

Springer

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Library of Congress Control Number: 2006928069

CR Subject Classification (1998): I.2, F.4.1, F.1, F.2, I.4

LNCS Sublibrary: SL 7 – Artificial Intelligence

ISSN 0302-9743
ISBN-10 3-540-35748-3 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-35748-3 Springer Berlin Heidelberg New York

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11785231 06/3142 5 4 3 2 1 0

Preface

This volume constitutes the proceedings of the 8th Conference on Artificial Intelligence and Soft Computing, ICAISC 2006, held in Zakopane, Poland in June 25-29, 2006. The conference was organized by the Polish Neural Network Society in cooperation with the Academy of Humanities and Economics in Łódź, the Department of Computer Engineering at the Czestochowa University of Technology, and the IEEE Computational Intelligence Society – Poland Chapter. The previous conferences took place in Kule (1994), Szczyrk (1996), Kule (1997) and Zakopane (1999, 2000, 2002, 2004) and attracted a large number of papers and internationally recognized speakers: Lotfi A. Zadeh, Shun-ichi Amari, Daniel Amit, Piero P. Bonissone, Zdzislaw Bubnicki, Andrzej Cichocki, Wlodzislaw Duch, Jerzy Grzymala-Busse, Kaoru Hirota, Janusz Kacprzyk, Laszlo T. Koczy, Soo-Young Lee, Robert Marks, Evangelia Micheli-Tzanakou, Erkki Oja, Witold Pedrycz, Sarunas Raudys, Enrique Ruspini, Jorg Siekman, Roman Slowinski, Ryszard Tadeusiewicz, Shiro Usui, Ronald Y. Yager, Syozo Yasui and Jacek Zurada. 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 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. Our goal is to bring together scientists representing both traditional artificial intelligence approaches and soft computing techniques. The volume is divided into eight parts:

- Neural Networks and Their Applications
- Fuzzy Systems and Their Applications
- Evolutionary Algorithms and Their Applications
- Rough Sets
- Classification and Clustering
- Image Analysis and Robotics
- Bioinformatics and Medical Applications
- Various Problems of Artificial Intelligence

The conference attracted a total of 400 submissions from 41 countries and after the review process, 128 papers were accepted for publication in this volume. 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 Lecture Notes in Computer Science/Artificial Intelligence and the rest of Springer's LNCS team for their cooperation in the

preparation of this volume. Finally I thank my co-workers Łukasz Bartczuk, Piotr Dziwiński, Marcin Gabryel, Marcin Korytkowski and Rafał Scherer for their enormous efforts to make the conference a very successful event.

June 2006

Leszek Rutkowski
President of the Polish Neural Network Society

Organization

ICAISC 06 was organized by the Polish Neural Network Society in cooperation with the Academy of Humanities and Economics in Łódź, the Department of Computer Engineering at the Czestochowa University of Technology, and the IEEE Computational Intelligence Society – Poland Chapter.

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