

Preface

This volume constitutes the proceedings of the 15th International Conference on Artificial Intelligence and Soft Computing, ICAISC 2016, held in Zakopane, Poland, during June 12–16, 2016. The conference was organized by the Polish Neural Network Society in cooperation with the University of Social Sciences in Łódź and the Institute of Computational Intelligence at the Częstochowa University of Technology. Previous conferences took place in Kule (1994), Szczyrk (1996), Kule (1997) and Zakopane (1999, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2013, 2014, and 2015) and attracted a large number of papers and internationally recognized speakers: Lotfi A. Zadeh, Hojjat Adeli, Rafal Angryk, Igor Aizenberg, Shun-ichi Amari, Daniel Amit, Piero P. Bonissone, Jim Bezdek, Zdzisław Bubnicki, Andrzej Cichocki, Ewa Dudek-Dyduch, Włodzisław Duch, Pablo A. Estévez, Jerzy Grzymala-Busse, Martin Hagan, Yoichi Hayashi, Akira Hirose, Kaoru Hirota, Adrian Horzyk, Eyke Hüllermeier, Hisao Ishibuchi, Er Meng Joo, Janusz Kacprzyk, Jim Keller, Laszlo T. Koczy, Tomasz Kopacz, Adam Krzyzak, James Tin-Yau Kwok, Soo-Young Lee, Derong Liu, Robert Marks, Evangelia Micheli-Tzanakou, Kaisa Miettinen, Krystian Mikołajczyk, Henning Müller, Ngoc Thanh Nguyen, Andrzej Obuchowicz, Erkki Oja, Witold Pedrycz, Marios M. Polycarpou, José C. Príncipe, Jagath C. Rajapakse, Šarunas Raudys, Enrique Ruspini, Jörg Siekmann, Roman Słowiński, Igor Spiridonov, Boris Stilman, Ponnuthurai Nagaratnam Suganthan, Ryszard Tadeusiewicz, Ah-Hwee Tan, Shiro Usui, Fei-Yue Wang, Jun Wang, Bogdan M. Wilamowski, Ronald Y. Yager, Syozo Yasui, Gary Yen, and Jacek Zurada. The aim of this conference is to build a bridge between traditional artificial intelligence techniques and so-called 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.” These proceedings present both traditional artificial intelligence methods and soft computing techniques. Our goal is to bring together scientists representing both areas of research. This volume is divided into five parts:

- Bioinformatics, Biometrics and Medical Applications
- Data Mining
- Artificial Intelligence in Modeling and Simulation
- Workshop: Visual Information Coding Meets Machine Learning
- Various Problems of Artificial Intelligence

The conference attracted 343 submissions from 35 countries and after the review process, 133 papers were accepted for publication. The ICAISC 2016 hosted the workshop “Visual Information Coding Meets Machine Learning: Large-Scale Challenges” (VICML 2016) organized by:

- Marcin Korytkowski, Częstochowa University of Technology, Poland
- Krystian Mikołajczyk, Imperial College, UK
- Rafał Scherer, Częstochowa University of Technology, Poland
- Sviatoslav Voloshynovskiy, University of Geneva, Switzerland

The workshop was supported by the project “Innovative Methods of Retrieval and Indexing Multimedia Data Using Computational Intelligence Techniques” funded by the National Science Centre. I would like to thank our participants, invited speakers, and reviewers of the papers for their scientific and personal contribution to the conference. I would also like to thank all the additional reviewers for their helpful reviews.

Finally, I thank my co-workers Łukasz Bartczuk, Piotr Dziwiński, Marcin Gabryel, and Marcin Korytkowski and the conference secretary, Rafał Scherer, for their enormous efforts that helped make the conference a very successful event. Moreover, I would like to appreciate the work of Marcin Korytkowski, who designed the Internet submission system.

June 2016

Leszek Rutkowski

Artificial Intelligence and Soft Computing
15th International Conference, ICAISC 2016, Zakopane,
Poland, June 12-16, 2016, Proceedings, Part II
Rutkowski, L.; Korytkowski, M.; Scherer, R.;
Tadeusiewicz, R.; Zadeh, L.A.; Zurada, J.M. (Eds.)
2016, XXIV, 770 p. 271 illus., Softcover
ISBN: 978-3-319-39383-4