

Preface

This book and its companion volumes, LNCS vols. 10385 and 10386, constitute the proceedings of the 8th International Conference on Swarm Intelligence (ICSI 2017) held from July 27 to August 1, 2017, in Fukuoka, Japan.

The theme of ICSI 2017 was “Serving Life with Intelligence and Data Science.” ICSI 2017 provided an excellent opportunity and/or an academic forum for academics and practitioners to present and discuss the latest scientific results and methods, innovative ideas, and advantages in theories, technologies, and applications in swarm intelligence. The technical program covered all aspects of swarm intelligence and related areas.

ICSI 2017 was the eighth international gathering in the world for researchers working on all aspects of swarm intelligence, following successful events in Bali (ICSI 2016), Beijing (ICSI-CCI 2015), Hefei (ICSI 2014), Harbin (ICSI 2013), Shenzhen (ICSI 2012), Chongqing (ICSI 2011), and Beijing (ICSI 2010), which provided a high-level academic forum for participants to disseminate their new research findings and discuss emerging areas of research. It also created a stimulating environment for participants to interact and exchange information on future challenges and opportunities in the field of swarm intelligence research. ICSI 2017 was held in conjunction with the Second International Conference on Data Mining and Big Data (DMBD 2017) at Fukuoka, Japan, to share common mutual ideas, promote transverse fusion, and stimulate innovation.

ICSI 2017 was held in the center of the Fukuoka City. Fukuoka is the fifth largest city in Japan with 1.55 million inhabitants and is the seventh most liveable city in the world according to the 2016 Quality of Life Survey by *Monocle*. Fukuoka is in the northern end of the Kyushu Island and is the economic and cultural center of Kyushu Island. Because of its closeness to the Asian mainland, Fukuoka has been an important harbor city for many centuries. Today’s Fukuoka is the product of the fusion of two cities in the year 1889, when the port city of Hakata and the former castle town of Fukuoka were united into one city called Fukuoka. The participants of ICSI 2017 enjoyed traditional Japanese dances, the local cuisine, beautiful landscapes, and the hospitality of the Japanese people in modern Fukuoka, whose sites are part of UNESCO’s World Heritage.

ICSI 2017 received 267 submissions from about 512 authors in 35 countries and regions (Algeria, Australia, Austria, Brazil, Brunei Darussalam, Canada, China, Colombia, Germany, Hong Kong SAR China, India, Indonesia, Iran, Italy, Japan, Lebanon, Malaysia, Mexico, New Zealand, Nigeria, Norway, Romania, Russia, Serbia, Singapore, South Africa, South Korea, Spain, Sweden, Chinese Taiwan, Thailand, Tunisia, Turkey, UK, USA) across six continents (Asia, Europe, North America, South America, Africa, and Oceania). Each submission was reviewed by at least two, and on average 2.9 reviewers. Based on rigorous reviews by the Program Committee members and reviewers, 133 high-quality papers were selected for publication in this

proceedings volume, with an acceptance rate of 49.81%. The papers are organized in 24 cohesive sections covering all major topics of swarm intelligence and computational intelligence research and development.

On behalf of the Organizing Committee of ICSI 2017, we would like to express our sincere thanks to the Research Center for Applied Perceptual Science of Kyushu University and the Computational Intelligence Laboratory of Peking University for their sponsorship, to the IEEE Computational Intelligence Society for its technical sponsorship, to a Japan Chapter of IEEE Systems, Man and Cybernetics Society for its technical cosponsorship, as well as to our supporters the International Neural Network Society, World Federation on Soft Computing, IEEE Beijing Section, and Beijing Xinghui Hi-Tech Co. and Springer. We would also like to thank the members of the Advisory Committee for their guidance, the members of the international Program Committee and additional reviewers for reviewing the papers, and the members of the Publications Committee for checking the accepted papers in a short period of time. We are particularly grateful to Springer for publishing the proceedings in the prestigious series *Lecture Notes in Computer Science*. Moreover, we wish to express our heartfelt appreciation to the plenary speakers, session chairs, and student helpers. In addition, there are still many more colleagues, associates, friends, and supporters who helped us in immeasurable ways; we express our sincere gratitude to them all. Last but not the least, we would like to thank all the speakers, authors, and participants for their great contributions that made ICSI 2017 successful and all the hard work worthwhile.

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