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Ying Tan · Yuhui Shi · Ben Niu (Eds.)

Advances in Swarm Intelligence

10th International Conference, ICSI 2019
Chiang Mai, Thailand, July 26–30, 2019
Proceedings, Part I

Springer

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ISSN 0302-9743 ISSN 1611-3349 (electronic)
Lecture Notes in Computer Science
ISBN 978-3-030-26368-3 ISBN 978-3-030-26369-0 (eBook)
https://doi.org/10.1007/978-3-030-26369-0

LNCS Sublibrary: SL1 – Theoretical Computer Science and General Issues

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The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

This book and its companion volumes, LNCS vols. 11655 and 11656, constitute the proceedings of the 10th International Conference on Swarm Intelligence (ICSI 2019) held during July 26–30, 2019, in Chiang Mai, Thailand.

The theme of ICSI 2019 was "Serving Life with Intelligence Science." ICSI 2019 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 most of the aspects of swarm intelligence and its related areas.

ICSI 2019 was the tenth international gathering in the world for researchers working on most of the aspects of swarm intelligence, following successful events in Shanghai (ICSI 2018), Fukuoka (ICSI 2017), 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 2019 was held in conjunction with the 4th International Conference on Data Mining and Big Data (DMBD 2019) held in Chiang Mai, Thailand, for sharing common mutual ideas, promoting transverse fusion, and stimulating innovation.

The ICSI 2019 was held in Chiang Mai, Thailand, which was founded in 1296 as the capital of the ancient Lanna Kingdom, located 700 km north of Bangkok in a verdant valley on the banks of the Ping River. Chiang Mai is a land of misty mountains and colorful hill tribes, a playground for seasoned travelers, a paradise for shoppers, and a delight for adventurers. Chiang Mai can expand visitors' horizons with Thai massage, cooking courses, variety of handicrafts, and antiques. Despite its relatively small size, Chiang Mai truly has it all. Today it is a place where past and the present seamlessly merge with modern buildings standing side by side with venerable temples.

ICSI 2019 took place at the Duangtawan Hotel in Chiang Mai, Thailand, which is located in the center of Night Bazaar, one of the famous shopping areas in downtown Chiang Mai. Surrounded by a night market where there is an ideal district for shopping, sightseeing, meeting, and commercial business, the hotel is only 15 minutes away from Chiang Mai International Airport, the main railway station, and Chiang Mai bus station. Guests can easily access the weekend walking streets, historical attractions, and traditional temples, while indulging in fascinating northern eateries, original handicrafts, souvenirs, and local entertainment. The hotel offers comfortable and convenient guestrooms overlooking Chiang Mai's vibrant city view, and a plentiful service of TAI-style restaurants and bars, as well as a complete service of MICE events towards a selection of our function rooms. Guests can enjoy the wide-panoramic view of an outdoor swimming pool, fully-equipped fitness center, and well-being Varee Spa.

ICSI 2019 received 179 submissions and invited submissions from about 429 authors in 30 countries and regions (Algeria, Australia, Austria, Bangladesh, Brazil, China, Colombia, Finland, Germany, Chinese Hong Kong, India, Iraq, Italy, Japan, Malaysia, Mexico, New Zealand, Norway, Portugal, Romania, Russia, Serbia, Singapore, South Africa, Spain, Sweden, Chinese Taiwan, Thailand, United Kingdom, United States of America) across 6 continents (Asia, Europe, North America, South America, Africa, and Oceania). Each submission was reviewed by at least two reviewers, and on average 2.6 reviewers. Based on rigorous reviews by the Program Committee members and reviewers, 82 high-quality papers were selected for publication in this proceedings volume with an acceptance rate of 45.81%. The papers are organized into 13 cohesive sections covering major topics of swarm intelligence research and its development and applications.

On behalf of the Organizing Committee of ICSI 2019, we would like to express our sincere thanks to Peking University, Southern University of Science and Technology, and Mae Fah Luang University for their sponsorship, and to Computational Intelligence Laboratory of Peking University, School of Information Technology of Mae Fah Luang University, and IEEE Beijing Chapter for its technical co-sponsorship, as well as to our supporters of International Neural Network Society, World Federation on Soft Computing, Beijing Xinghui Hi-Tech Co., and Springer Nature.

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 the proceedings publisher Springer for publishing the proceedings in the prestigious series of 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 2019 successful and all the hard work worthwhile.

June 2019

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