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Intelligent Computing Theories and Application

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Preface

The International Conference on Intelligent Computing (ICIC) was started to provide an annual forum dedicated to the emerging and challenging topics in artificial intelligence, machine learning, pattern recognition, bioinformatics, and computational biology. It aims to bring together researchers and practitioners from both academia and industry to share ideas, problems, and solutions related to the multifaceted aspects of intelligent computing.

ICIC 2022, held in Xi'an, China, during August 7–11, 2022, constituted the 18th International Conference on Intelligent Computing. It built upon the success of the previous ICIC events held at various locations in China (2005–2008, 2010–2016, 2018–2019, 2021) and in Ulsan, South Korea (2009), Liverpool, UK (2017), and Bari, Italy (2020).

This year, the conference concentrated mainly on the theories, methodologies, and emerging applications of intelligent computing. Its aim was to unify the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in advanced computational intelligence and bridges theoretical research with applications. Therefore, the theme for this conference was "Advanced Intelligent Computing Technology and Applications". Papers focused on this theme were solicited, addressing theories, methodologies, and applications in science and technology.

ICIC 2022 received 449 submissions from authors in 21 countries and regions. All papers went through a rigorous peer-review procedure and each paper received at least three review reports. Based on the review reports, the Program Committee finally selected 209 high-quality papers for presentation at ICIC 2022, which are included in three volumes of proceedings published by Springer: two volumes of Lecture Notes in Computer Science (LNCS) and one volume of Lecture Notes in Artificial Intelligence (LNAI).

Among the 449 submissions to the conference were 57 submissions for the six special sessions and nine workshops featured the ICIC this year. All these submissions were reviewed by members from the main Program Committee and 22 high-quality papers were selected for presentation at ICIC 2022 and included in the proceedings based on the topic.

This volume of Lecture Notes in Computer Science (LNCS) includes 66 papers.

The organizers of ICIC 2022, including the EIT Institute for Advanced Study, Xi'an Polytechnic University, Shenzhen University, and the Guangxi Academy of Sciences, made an enormous effort to ensure the success of the conference. We hereby would like to thank the members of the Program Committee and the referees for their collective effort in reviewing and soliciting the papers. In particular, we would like to thank all the authors for contributing their papers. Without the high-quality submissions from the authors, the success of the conference would not have been possible. Finally, we are

especially grateful to the International Neural Network Society and the National Science Foundation of China for their sponsorship.

June 2022

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