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Imran Sarwar Bajwa · Fairouz Kamareddine Anna Costa (Eds.)

# Intelligent Technologies and Applications

First International Conference, INTAP 2018 Bahawalpur, Pakistan, October 23–25, 2018 Revised Selected Papers



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#### **Preface**

The present book includes the papers accepted for the First International Conference on Intelligent Technologies and Applications (INTAP 2018), held in Bahawalpur, Pakistan, during October 23–25, 2018, organized by the Artificial Intelligence Research Group with the collaboration of the Sir Sadiq Association of Computing and hosted by the Islamia University of Bahawalpur. The conference was sponsored by the Higher Education Commission, Pakistan.

The conference was organized in 13 simultaneous tracks: AI and Health (5), Sentiment Analysis (5), Intelligent Applications (7), Social Media Analytics (6), Business Intelligence (6), Natural Language Processing (5), Information Extraction (4), Machine Learning (6), Smart Systems (5), Semantic Web (6), Decision Support Systems (6), Image Analysis (7), and Automated Software Engineering (6).

We received 251 submissions, from 28 countries and districts representing all continents. After a blind review process, only 67 were accepted as full papers and seven were selected as short papers based on the classifications provided by the Program Committee, resulting in an acceptance rate of 29%. The selected papers reflect state-of-the-art research work in the different domains and applications of artificial intelligence and highlight the benefits of intelligent and smart systems in various fields of life. These high-quality standards will be maintained and reinforced at INTAP 2019, to be held at Harriot-Watt University, Scotland, and in future editions of this conference.

Furthermore, INTAP 2018 included four plenary keynote lectures given by Letizia Jaccheri (Norwegian University of Science and Technology, Norway), Julia Sidorova (Blekinge Institute of Technology, Sweden), M. Abbas Choudhary (DIHE, Karachi), Irfan Hyder (IoBM, Karachi), Dr. Riaz ul Amin (BUITEMS, Quetta), and Dr. Khurram Khurshid (IST, Islamabad). We would like to express our appreciation to all of them and in particular to those who took the time to contribute with a paper to this book.

On behalf of the conference Organizing Committee, we would like to thank all participants. First of all, the authors, whose quality work is the essence of the conference., and the members of the Program Committee, who helped us with their expertise in reviewing and selecting the quality papers for this book. It is well known that organizing an international conference requires the effort of many individuals. We wish to thank also all the members of our Organizing Committee, whose work and commitment were invaluable.

October 2018

Anna Costa Imran Sarwar Bajwa Fairouz Kamareddine Julia Sidorova

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