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Volume 419

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Ajith Abraham · Ana Maria Madureira ·
Arturas Kaklauskas · Niketa Gandhi ·
Anu Bajaj · Azah Kamilah Muda ·
Dalia Kriksciuniene · João Carlos Ferreira
Editors

Innovations in Bio-Inspired Computing and Applications

Proceedings of the 12th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2021) Held During December 16–18, 2021

Springer

Editors
Ajith Abraham
Scientific Network for Innovation
and Research Excellence
Machine Intelligence Research
Labs (MIR Labs)
Auburn, WA, USA

Arturas Kaklauskas
Department of Construction Management
and Real Estate
Vilnius Gediminas Technical University
Vilnius, Lithuania

Anu Bajaj
Scientific Network for Innovation
and Research Excellence
Machine Intelligence Research
Labs (MIR Labs)
Auburn, WA, USA

Dalia Kriksciuniene
Vilnius University
Kaunas, Lithuania

Ana Maria Madureira
Departamento de Engenharia Informática
Instituto Superior de Engenharia do Port
Porto, Portugal

Niketa Gandhi
Scientific Network for Innovation
and Research Excellence
Machine Intelligence Research
Labs (MIR Labs)
Auburn, WA, USA

Azah Kamilah Muda
Faculty of Information Communication
Technology
Universiti Teknikal Malaysia Melaka
Durian Tunggal, Melaka, Malaysia

João Carlos Ferreira
Lisbon University Institute
Lisbon, Portugal

ISSN 2367-3370 ISSN 2367-3389 (electronic)
Lecture Notes in Networks and Systems
ISBN 978-3-030-96298-2 ISBN 978-3-030-96299-9 (eBook)
https://doi.org/10.1007/978-3-030-96299-9

Preface

Welcome to the 12th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2021) and 11th World Congress on Information and Communication Technologies (WICT 2021) held online during December 16–18, 2021.

The aim of IBICA is to provide a platform for world research leaders and practitioners, to discuss the full spectrum of current theoretical developments, emerging technologies, and innovative applications of bio-inspired computing. Bio-inspired computing is currently one of the most exciting research areas, and it is continuously demonstrating exceptional strength in solving complex real-life problems. WICT provides an opportunity for researchers from academia and industry to meet and discuss the latest solutions, scientific results, and methods in the usage and applications of ICT in the real world. Innovations in ICT allow us to transmit information quickly and widely, propelling the growth of new urban communities, linking distant places and diverse areas of endeavor in productive new ways, which a decade ago was unimaginable. Thus, the theme of this World Congress is "Innovating ICT For Social Revolutions."

IBICA–WICT 2021 brings together researchers, engineers, developers, and practitioners from academia and industry working in all interdisciplinary areas of intelligent systems, nature-inspired computing, big data analytics, real-world applications, and to exchange and cross-fertilize their ideas. The themes of the contributions and scientific sessions range from theories to applications, reflecting a wide spectrum of the coverage of intelligent systems and computational intelligence areas. IBICA 2021 received submissions from 15 countries, and each paper was reviewed by at least five reviewers in a standard peer-review process. Based on the recommendation by five independent referees, finally 33 papers were presented during the conference (acceptance rate of 28%). WICT 2020 received submissions from 24 countries, and each paper was reviewed by at least five reviewers in a standard peer-review process. Based on the recommendation by five independent referees, finally 47 papers were presented during the conference (acceptance rate of 34%).

Many people have collaborated and worked hard to produce the successful IBICA–WICT 2021 conference. First, we would like to thank all the authors for submitting their papers to the conference, for their presentations and discussions during the conference. Our thanks go to the program committee members and reviewers, who carried out the most difficult work by carefully evaluating the submitted papers. Our special thanks go to the following plenary speakers, for their exciting plenary talks:

- Yukio Ohsawa, The University of Tokyo, Japan
- Juergen Branke, University of Warwick, UK
- Cengiz Toklu, Beykent University, Turkey
- Günther Raidl, Technische Universität Wien, Austria
- Kalyanmoy Deb, Michigan State University, USA
- Oscar Cordon, University of Granada, Spain
- Andries Engelbrecht, University of Stellenbosch, South Africa
- Antônio de Padua Braga, Federal University of Minas Gerais, Brazil
- Frédéric Guinand, Le Havre Normandy University, France
- Marco Dorigo, Université Libre de Bruxelles, Belgium

Our special thanks to the Springer Publication team for the wonderful support for the publication of these proceedings. We express our sincere thanks to the session chairs and organizing committee chairs for helping us to formulate a rich technical program. Enjoy reading the articles!

Ajith Abraham
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Arturas Kaklauskas
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