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Digital Business and Intelligent Systems

15th International Baltic Conference, Baltic DB&IS 2022
Riga, Latvia, July 4–6, 2022
Proceedings

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Preface

This volume contains a selection of papers presented at the 15th International Baltic Conference on Digital Business and Intelligent Systems (DB&IS 2022). The conference was held during July 4–6, 2022, in Riga, Latvia.

The 15th International Baltic Conference on Digital Business and Intelligent Systems is a continuation of the biennial International Baltic Conference on Databases and Information Systems (Baltic DB&IS) held since 1994 in Trakai, Tallinn (1996, 2002, 2008, 2014, 2020), Riga (1998, 2004, 2010, 2016), and Vilnius (2000, 2006, 2012, 2018). After the 14th International Baltic Conference on Databases and Information Systems (Tallinn, 2020) the conference steering committee decided to extend the conference with more contemporary research topics and to decipher the acronym Baltic DB&IS as Digital Business and Intelligent Systems. Although the conference has grown out of the Baltics region, the conference name still carries it as a reference to its origins and long history.

Inheriting the scope of the previous editions of the conference series, the Baltic DB&IS 2022 conference focused on the advances of computer science in digital business and intelligent systems and provided a rich environment for exchanging research findings and ideas among scientists, practitioners, and doctoral students from the Baltic region and Europe but also the rest of the world.

Baltic DB&IS 2022 was organized by the Faculty of Computing of the University of Latvia together with Riga Technical University, Tallinn University of Technology, Vilnius University, Vilnius Gediminas Technical University, and the University of Tartu. The International Program Committee consisted of 82 researchers and representatives from 36 countries all over the world. This year, 42 submissions from authors in 16 countries were received. At least three reviewers evaluated each conference paper by applying the single-blind type of peer review. As a result, 16 papers were accepted as full papers and one paper was accepted as a short paper for publication in the present volume. The conference program was enriched with several keynote talks on challenging and emerging research topics. The conference was also accompanied by a Forum and a Doctoral Consortium.

The selected papers span a wide spectrum of topics related to digital business and intelligent systems, which have been grouped into five sections. The first, and largest, section addresses Computer Science Models, Methods, Algorithms, and Tools for Digital Business. The second section concerns Knowledge and Knowledge Technologies for Digital Business and Intelligent Systems. The third section proposes and describes approaches useful in IT Support for Digital Transformation. The fourth section concerns different perspectives on Artificial Agents and Smart Systems for Digital Business. Finally, the fifth section goes under the umbrella topic heading of Data, Data Science, and Computing for Digital Business and Intelligent Systems, proposing novel methods, algorithms, and architectures in the data science area.

We would like to express our warmest thanks to all authors who contributed to the 15th International Baltic Conference on Digital Business and Intelligent Systems 2022. Our special thanks go to the keynote speakers, Marlon Dumas, Alvis Brazma,

Robert E. Tarjan, and Talal G. Shamoan, for sharing their knowledge with the conference participants.

We are very grateful to the members of the international Program Committee and additional referees for their reviews and useful comments that helped authors to improve their original submitted papers. We are grateful to the presenters, session chairs, and conference participants for their time and effort that made DB&IS 2022 successful.

We also wish to express our thanks to the conference organizing team, the University of Latvia, and other supporters for their contributions.

Finally, we would like to thank Springer for their excellent cooperation during the publication of this volume.

July 2022

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