Audrius Lopata Daina Gudonienė Rita Butkienė (Eds.)

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Information and Software Technologies

28th International Conference, ICIST 2022 Kaunas, Lithuania, October 13–15, 2022 Proceedings



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Preface

We are pleased to present the proceedings of the 28th International Conference on Information and Software Technologies (ICIST 2022). This yearly conference was held during October 13–15, 2022, in Kaunas, Lithuania. The present volume includes three chapters, which correspond to the three major areas that were covered during the conference, namely, Business Intelligence for Information and Software Systems, Software Engineering, and Information Technology Applications. According to the four special sessions of the conference, the proceedings and the three areas are subdivided into the following sections:

- i. Intelligent Methods for Data Analysis and Computer Aided Software Engineering
- ii. Intelligent Systems and Software Engineering Advances
- iii. Smart e-Learning Technologies and Applications
- iv. Language Technologies

Conference participants not only had the opportunity to present their rigorous research in more specialized settings but also to attend high-quality plenary sessions. This year, as well as the carefully selected papers from researchers and institutions from Europe, Asia, and North America, we also had the pleasure of hearing keynote presentations on topics highly relevant to today's society and the scientific world in general. Filippo Sanfilippo, from the University of Agder, Norway, discussed advancements in robotic technology and snake robots that are already able to imitate a wide array of actions that could enable a variety of possible applications for use in demanding real-life emergency operations as well as industry. Antonio J. R. Neves, from the University of Aveiro, Portugal, delved into the current advances in memory enhancement and moment retrieval from daily digital data.

We would like to express our deepest gratitude to the special session chairs Audrius Lopata (Kaunas University of Technology, Lithuania), Marcin Wozniak (Silesian University of Technology, Poland), Diana Andone (Politehnica University of Timisoara), and Jurgita Kapočiūtė-Dzikienė (Vytautas Magnus University, Lithuania). We acknowledge and appreciate the immense contribution of the session chairs not only in attracting the highest quality papers but also in moderating the sessions and enriching discussions between the conference participants. The entire team working on organizing the conference is proud that despite the uncertainties of the COVID-19 pandemic period, the conference maintained and attracted the interest of numerous scholars across the globe.

Every year ICIST attracts researchers from all over the world, and this year was no exception – we received 66 submissions in total. This indicates that over the years the conference has truly gained international recognition as it still brings together a large number of brilliant experts who showcase the state of the art of the aforementioned fields and come to discuss their newest projects as well as directions for future research. This year, the conference took place in a hybrid way to ensure that participants had the

opportunity to participate safely in a remote way. However, this year we also had an increased number of participants preferring to attend the conference and present their papers in person and meet their colleagues from other domestic and foreign institutions.

As we are determined not to stop improving the quality of the conference, only 26 scientific papers were accepted for publication in this volume (a 39% acceptance rate). Each submission was reviewed by at least three reviewers, while borderline papers had an additional evaluation. Reviewing and selection were performed by our highly esteemed Program Committee, who we thank for devoting their precious time to produce thorough reviews and feedback to the authors. It should be duly noted that this year, the Program Committee consisted of 40 reviewers, representing 24 academic institutions and 13 countries.

In addition to the session chairs and Program Committee members, we would like to thank the Local Organizing Committee and the Faculty of Informatics at the Kaunas University of Technology; the conference would not have been a great success without their tremendous support. The proceedings of ICIST 2022 are published as a volume in the Communications in Computer and Information Science series. This would not be possible without the kind assistance that was provided by the Springer team, for which we are extremely grateful. We are very proud of this collaboration and believe that this fruitful partnership will continue for many more years to come.

July 2022

Audrius Lopata Daina Gudonienė Rita Butkienė

Organization

The 28th International Conference on Information and Software Technologies (ICIST 2022) was organized by Kaunas University of Technology and was held in Kaunas, Lithuania (October 13–15, 2022).

Conference Chair

Rita Butkienė

Kaunas University of Technology, Lithuania

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