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Editor

Computer Modeling and Intelligent Systems

Proceedings of The Fourth International Workshop
CMIS-2021

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This volume represents the proceedings of the Third International Workshop on Computer Modeling and Intelligent Systems (CMIS-2021), held in Zaporizhzhia, Ukraine, in April, 2021. It comprises 44 contributed papers that were carefully peer-reviewed and selected from 112 submissions.

Preface

It is my pleasure to present you the proceedings of The Fourth International Workshop on Computer Modeling and Intelligent Systems (CMIS-2021), held in Zaporizhzhia, Ukraine on 27 of April 2021.

The CMIS workshop was held in 2021 for the fourth time at the National University "Zaporizhzhia Polytechnic" (http://www.zp.edu.ua), which is the largest and oldest regional center for science and higher education in the Zaporizhzhia region of South-Eastern Ukraine.

The leading place in the training of IT-specialists at the National University "Zaporizhzhia Polytechnic" is occupied by the Department of Software Tools (http://pz.zntu.net), which is the largest IT department in the region and the largest university's department in terms of the number of students. The Department of Software Tools of the National University "Zaporizhzhia Polytechnic" was the organizer and base for all CMIS workshops, including the CMIS-2021 workshop.

In 2021, the University and the Department of Software Tools celebrate the 30th anniversary of the opening of the Software Engineering specialty at the university, as well as the 25th anniversary of the first graduation of the students on this specialty. The department has trained more than two thousand programmers of bachelor's, specialist's (engineer's), master's levels over the years of existence of this specialty. Thus, the Department of Software Tools has made a significant contribution to the development of IT education and industry in the Zaporizhzhia region. The Fourth International Workshop on Computer Modeling and Intelligent Systems (CMIS-2021) is timed to coincide with this significant dates.

The main purpose of the CMIS-2021 workshop is a discussion of the recent research results in all areas of Computer Sciences and Information Technologies.

The workshop is soliciting literature review, survey and research papers including, whilst not limited to, the following areas of interest:

– Artificial Intelligence (Pattern Recognition, Machine Learning, Computational Intelligence (Neural Networks, Fuzzy and Hybrid Systems, Intelligent Optimization and Search), Knowledge-based Systems);

– Computer Science Methods for Modeling;

– Info-Communication Technologies for Data Analysis (Data Mining, Decision Support, Signal and Image Processing) and Applications for Engineering, Medicine and Education.

The CMIS-2021 workshop joined scientists from Armenia, Azerbaijan, Belarus, Belgium, China, Czech Republic, Germany, Indonesia, Israel, Kyrgyzstan, Morocco, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, and Uzbekistan. The number of countries of CMIS-2021 authors and PC members is 21 (instead of 12 in 2020).

The language of CMIS-2021 Workshop is English. The workshop took the form of oral presentations of peer-reviewed regular papers. The video of presentations is available at https://www.facebook.com/groups/cmis.workshop/.

The CMIS-2021 Organizing Committee have received 122 paper submissions (instead of 177 submissions in 2020, and 130 submissions in 2019), out of which 44 were accepted for presentation as a regular papers (instead of 83 in 2020, and 81 in 2019) in the result of reviewing process, where the editor, program committee members, external and peer reviewers sought to ensure a high scientific level, as well as a high-quality presentation of the selected papers.

The paper acceptance ratio in 2021 is 39% (instead of 47% in 2020, and 62% in 2019). These papers were published in this volume of CMIS-2021 proceedings.

The workshop would not have been possible without the support of many people. I would like to thank the Workshop Program Committee Members, organization staff, and external reviewers for their excellent and tireless work. I sincerely wish that all attendees benefited scientifically from the workshop and wish them every success in their research. It is the humble wish of the workshop organizers that the professional dialogue among the researchers, scientists, and engineers continues beyond the event and that the friendships and collaborations forged will linger and prosper for many years to come.

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