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Editors


Interactive Collaborative Robotics

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Preface

The International Conference on Interactive Collaborative Robotics (ICR) was launched in 2016 and the 8th International Conference on Interactive Collaborative Robotics was held in Baku, Azerbaijan from October 25–29, 2023. The conference brought together experts and scholars from different fields to discuss the use and challenges of human-robot collaboration in different spheres such as industry, society, healthcare, and education. The main focus of the conference was on the foundations and means of collaborative behavior of one or more robots physically interacting with humans in operational environments configured with embedded sensor networks and cloud services under uncertainty and environmental variability.

The International Conference on Interactive Collaborative Robotics (ICR) is deservedly recognized and supported by experts in the field internationally, so the decision to have ICR 2023 in Baku was right to the point; this year's conference was co-hosted by the Institute of Control Systems of the Ministry of Science and Education of the Republic of Azerbaijan (Baku, Azerbaijan), the St. Petersburg Federal Research Center of the Russian Academy of Sciences (St. Petersburg, Russia), and Wenzhou University (Wenzhou, China); moreover, many outstanding professionals from all over the world accepted to act as committee chairs and members.

During the conference, scientists, industry experts, and scholars from research and business at home and abroad were given a venue to share their ideas and discuss cutting-edge technologies, industrial products, and industry trends, making it a highly influential event in the robotics industry. More details are available at the conference website: <https://icr.cyber.az/>.

This volume contains a collection of 33 papers presented at ICR 2023, each thoroughly reviewed by members of the Program Committee consisting of more than 30 top specialists in the conference subject. The papers were selected from 56 submissions in a single-blind peer review process, with each submission receiving at least 3 reviews. Theoretical and more general contributions were presented in oral sessions. Problem-oriented sessions as well as discussions then brought together specialists in limited problem areas with the aim of exchanging knowledge and skills resulting from research projects of all kinds.

Special thanks and appreciation go to the members of the Program Committee and Organizing Committee for their diligence and enthusiasm during the conference organization. We extend our gratitude to all participants for their valuable contribution to the success of ICR 2023 and look forward to meeting all of you at the next International

Conference on Interactive Collaborative Robotics, in 2024. More details are available at: <http://icr.nw.ru/>.

October 2023

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