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Conference Paper

ICARSC 2019 - Preface

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Abstract

The following topics are dealt with: mobile robots; multi-robot systems; path planning; robot vision; service robots; collision avoidance; learning (artificial intelligence); legged locomotion; control engineering computing; production engineering computing.

Preface

The 13th IEEE International Conference on Autonomous Robot Systems and Competitions (ICARSC) gathers participants from academia and industry working in the fields of autonomous robotics and robotics competitions. It is organized within ROBOTICA 2019, the 19th Portuguese Robotics Open, a RoboCup-sponsored regional event that takes place every year on a different Portuguese town. ICARSC is an international full-fledged conference, scientifically sponsored by IEEE Robotics and Automation Society and by the Portuguese Robotics Society. ICARSC adopted this name in 2007, building up on the Scientific Meeting that integrated ROBOTICA since its inception in 2001.

This year, ICARSC and ROBOTICA 2019 take place at the city of Gondomar, Porto, Portugal, being organized by the Faculty of Engineering of the University of Porto (FEUP) and the Institute of Systems and Computer Engineering INESC-TEC. FEUP is one of the oldest engineering schools in Portugal, with a well-established tradition of advanced scientific research, innovative teaching and strong ties with industry. INESC-TEC is a research-oriented organization affiliated with FEUP, among other institutions, that brings forefront research to successful technology transfer. Finally, the city of Gondomar, with a history of more than 1000 years, lies on the outskirts of Porto and it is well-known for the fine artwork of its goldsmiths and for the dishes of fish from the Douro river, namely shad and lamprey.

The 2019 edition of ICARSC counts with a vibrant program that reflects the wealth of its topics, ranging from more traditional robotics research lines, such as mapping, localization and learning, to specific topics such as robotics competitions and the challenges and benefits they bring. This wealth is also visible in its three keynote talks, delivered by top well-known researchers in the field. Namely, Gerhard K. Kraetzschmar from the Bonn-Rhein-Sieg University of Applied Sciences shares his experience in *Developing Professional Robotic Service Applications*, Pedro U. Lima from ISR-IST at University of Lisbon addresses *Robot Competitions Driving Robotics Research* while Bruno Siciliano from PRISMA Lab at the University of Naples Federico II discusses the latest advances in *Robotic Dynamic Manipulation*.

ICARSC 2019 received 70 submissions which were subject to peer reviewing. All papers were reviewed by at least three subject matter experts. In total, 251 reviews were written, and 44 papers were accepted. This yields an average of 3.6 reviews per paper and an acceptance rate of approximately 63%. The 44 accepted papers were allocated for oral presentation in 11 sessions. The final technical program spans two days, with the third day dedicated to visiting ROBOTICA competitions. The social program includes a boat tour on the river Douro alongside Porto, followed by the conference banquet at the BH Foz Restaurant in Porto, during which several awards are presented.

ICARSC 2019 was made possible by the hard work of many people. We are especially grateful to the Organizing Committee, to the Program Committee for the invaluable reviewing work and to the authors of all submitted papers for sharing their work with us.

We are very pleased with the quality, depth, and breadth of ICARSC 2019's technical program and we hope you enjoy it!

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