

Special Issue

Sensing and Perception in Human-Robot Interaction

Message from the Guest Editor

The combination of human cognition with the high effectiveness and precision of collaborative robots, namely cobots, leads HRI to outperform traditional robot behavior. A key feature boosting the success of HRI is the instrumentation of cobots with various types of sensors, such as force, torque, tactile, motion, proximity, and vision sensors. The integration of sensors in collaborative robotics setups, together with robust algorithms that make use of different sensory inputs, will constantly increase the cognitive capabilities of cobots, resulting in a significant improvement in HRIs. The present Special Issue aims to collect articles showing new sensing modalities and algorithms in the execution of HRI. Particular attention is given to how sensors are integrated into a collaborative robotic setup, as well as to perception modalities, data processing methods, and consequent decision-making processes. The topics of interest include (without being limited to) the following:

- Sensor integration in HRI;
- Sensing applications in HRI;
- Safety in HRI;
- Hardware design of cobots;
- Instrumented end effectors of cobots;
- Control of cobots.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

It is my great pleasure to welcome you to our open access journal, *Robotics*, which is dedicated to both the foundations of artificial intelligence, bio-mechanics and mechatronics, and the real-world applications of robotic perception, cognition and actions. The 21st century is the robotics century and intelligent robots will change our lifestyle forever. Let us work together toward the realization of intelligent robots step by step. It is great fun to create intelligent robots and imagine their practical applications. *Robotics* is now ready to serve you in the long journey towards such a goal.

Editor-in-Chief

Prof. Dr. Marco Ceccarelli

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