Special Issue

Extended Reality and AI Empowered Robots

Message from the Guest Editors

In recent years, there have been notable advancements in immersive technologies, thus broadening the audience and number of applications within the extended reality (XR) domain. This includes virtual reality (VR), augmented reality (AR), and mixed reality (MR), with these technologies demonstrating their exceptional capabilities in supporting telepresence and robot teleoperation. Today, the adoption of XR and AI technologies significantly contributes to empowering the application of robotics, enhancing users' performance, and supporting visualization aspects and the decision-making process in tasks such as tele-observation and teleoperation. In this Special Issue, we welcome the submission of contributions that describe novel approaches to the use of extended reality and artificial intelligence in tasks that empower robots and their applications. Potential topics include, but are not limited to, the following:

- VR/AR/MR for robotic teleoperation;
- 3D Vision and true-dimensional visualization;
- Immersive human–machine interaction;
- Medical robotics and VR/AR applications in healthcare
- Image analysis for teleoperation
- Creative XR and robotics

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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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