

Special Issue

Localization and 3D Mapping of Intelligent Robotics

Message from the Guest Editors

Localization involves determining a robot's position relative to its surroundings, typically achieved through techniques like Simultaneous Localization and Mapping (SLAM). Navigation heavily relies on accurate localization data, allowing robots to plan optimal paths and avoid obstacles in real-time. This capability is essential for applications ranging from warehouse logistics to search and rescue missions. Moreover, the fusion of perception and detection technologies enables robots to interpret their surroundings comprehensively, identifying objects, obstacles, and hazards. This environment recognition capability enhances safety and efficiency across various tasks. These advancements in localization and mapping have far-reaching applications, including industrial automation, agricultural robotics, and exploration in hazardous environments. As technology continues to evolve, intelligent robots equipped with sophisticated localization and mapping capabilities will further revolutionize numerous fields, making operations safer, more efficient, and increasingly autonomous.

Guest Editors

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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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