Special Issue

Advanced Techniques in Control and Path Planning for Autonomous and Collaborative Robots in Dynamic Environments

Message from the Guest Editor

This special issue explores recent advancements in control techniques and path planning for autonomous and collaborative robotic systems in dynamic environments. As robots are increasingly deployed in real-world scenarios with unpredictable obstacles, traditional methods face challenges in real-time decision-making, multi-robot coordination, and efficient navigation. By integrating Artificial Intelligence (AI), Digital Twin technology, and advanced control strategies, this issue highlights innovations that improve robot mobility, perception, and collaboration. AI-driven algorithms enable intelligent trajectory generation, while Digital Twin models facilitate real-time environmental reconstruction for accurate path optimization. Furthermore, the issue delves into collaborative robotics, focusing on communication, coordination, and task sharing between robots for enhanced system performance. This collection aims to provide insights into the future of autonomous and collaborative robotics, addressing both theoretical advancements and practical applications in intelligent navigation and control systems.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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