

Special Issue

LiDAR Technology for Autonomous Navigation and Mapping

Message from the Guest Editors

Autonomous navigation and mapping has always been a prerequisite and essential foundation for autonomous systems, providing location and environmental information for decision making and vehicle operation. In recent years, LiDAR systems have demonstrated tremendous potential for enhancing perception capabilities in autonomous navigation and mapping tasks. Autonomous vehicles, ships, and drones, for instance, rely heavily on LiDAR for safe and efficient navigation, particularly in GNSS-denied and challenged environments such as indoors, underground, and in urban canyon areas. Furthermore, due to LiDAR's high ranging accuracy and its ability to provide detailed point cloud data, it offers significant advantages for mapping and environmental perception, laying the groundwork for subsequent tasks such as path planning and mission execution.

This Special Issue aims to explore innovative research on the application of LiDAR technology in autonomous navigation and mapping. Topics may involve positioning, detection, or mapping using LiDAR-based methods or multi-sensor fusion solutions in various environments, including indoors and in urban settings.

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Message from the Editor-in-Chief

Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

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