Special Issue

Object Detection in Remote Sensing Images Based on Artificial Intelligence

Message from the Guest Editors

Recent breakthroughs in artificial intelligence (AI), particularly deep learning (DL), have revolutionized object detection in remote sensing images (RSIs). Techniques like convolutional neural networks (CNNs), transformer-based architectures, and hybrid models have demonstrated remarkable capabilities in addressing domain-specific challenges, enabling higher accuracy, robustness, and efficiency. Despite these advances, critical gaps remain, including the need for lightweight models for edge deployment, generalization across heterogeneous datasets, interpretability of AI decisions, and handling of low-resolution or weakly annotated data. Furthermore, emerging trends such as multimodal data fusion and few-shot learning demand deeper exploration. This Special Issue seeks to compile cutting-edge research on AI-driven object detection in RSIs, emphasizing novel algorithms, benchmark datasets, and real-world applications. By fostering interdisciplinary collaboration, we aim to accelerate progress in this field, bridging the gap between theoretical innovation and practical implementation to meet the growing demands of global remote sensing communities.

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Deadline for manuscript submissions

29 December 2025

Remote Sensing

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 8.6

mdpi.com/si/242737

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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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