

Special Issue

Demand-Driven and Explainable Artificial Intelligence for Remote Sensing Data Mining and Applications

Message from the Guest Editors

Advances in multi-source Earth observation—satellites, UAVs, and LiDAR—have greatly expanded remote sensing data volume and coverage, enhancing environmental monitoring. However, significant challenges remain in demand-oriented data mining, task-specific heterogeneous data fusion, and large-scale data interpretation. Although AI-based models, along with high-performance computing and cloud platforms, have significantly advanced remote sensing data analysis, limitations persist in model interpretability, transferability across regions and sensors, and application-oriented information extraction.

This Special Issue will highlight the latest developments in demand-driven and explainable artificial intelligence (XAI) methods and their applications, aiming to enhance the reliability and operation of remote sensing methods in agriculture, ecosystem monitoring, disaster management, urban studies, and related fields. We welcome original research articles on novel methods and applications involving machine learning, multimodal data fusion, knowledge-driven approaches, foundation models, and XAI for remote sensing image analysis and intelligent interpretation.

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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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