CALL FOR PAPERS

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on "AI-Driven Hyperspectral Remote Sensing: From Algorithms to Applications"

Hyperspectral imaging has emerged as a transformative technology in Earth observation, capturing detailed spectral information across hundreds of narrow, contiguous bands. This rich spectral data enables precise material identification and quantitative analysis, supporting applications in agriculture, environmental monitoring, mineral exploration, and urban planning. As hyperspectral sensors proliferate across airborne, spaceborne, and ground-based platforms, the volume and complexity of spectral data have surpassed the limits of traditional analytical methods, which further amplifies the need for efficient and scalable analysis techniques. Simultaneously, advances in AI offer unprecedented opportunities to unlock the latent potential of hyperspectral data, opening new frontiers ranging from algorithms to applications and transforming how we analyze and interpret complex spectral information. Yet, despite these advances, critical gaps remain in applying AI to hyperspectral remote sensing, including label scarcity, model generalization, computational cost, and so on. Hence, how to effectively tackle these challenges to fully unlock the potential of AI in hyperspectral remote sensing has become an urgent challenge to be solved. This Special Issue seeks to address these challenges by showcasing cutting-edge research at the intersection of AI and hyperspectral remote sensing. By bringing together fundamental algorithmic advances with practical implementation case studies, this Special Issue will provide a comprehensive resource for the GRSS community and help define the future trajectory of intelligent hyperspectral analysis. We welcome original research papers, methodological reviews, and application-focused studies that push the boundaries of this dynamic field.

The broad topics include (but are not limited to):
- Hyperspectral low-level vision tasks (e.g., denoising, restoration, super-resolution, fusion);
- Hyperspectral high-level tasks (e.g., classification, segmentation, anomaly detection);
- The application of hyperspectral remote sensing in specific fields (e.g., precision agriculture, water resource management, mineral exploration).

Schedule
Jan. 01, 2026 Submission system opening
Jun. 30, 2026 Submission system closing

Format
All submissions will be peer-reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on http://mc.manuscriptcentral.com/jstars, using the Manuscript Central interface and select the "**AI-Driven Hyperspectral Remote Sensing: From Algorithms to Applications**" special issue manuscript type. Prospective authors should consult the site https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768 for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit http://www.ieee.org/publications_standards/publications/authors/author_templates.html to download a template for transactions. Please note that since Jan. 1, 2025, IEEE J-STARS, as a fully open-access journal, is charging a flat publication fee $1,800 per paper.

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