



Special issue on “AI meets Remote Sensing Image Understanding”

Guest Editors

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Remote sensing (RS) image understanding aims at extracting valuable information and acquiring knowledge from remotely sensed data, and artificial intelligence (AI) plays a significant role. With the increased data availability and the development of techniques for data interpretation -particularly, deep learning (DL) techniques- the past few years have witnessed a tremendous growth of research efforts focused on the visual interpretation of remote sensing images. Such techniques have made significant breakthroughs in multiple domains, such as scene classification, object detection, feature extraction and recognition, and land-use/land-cover mapping, to name a few. Nevertheless, there are still several challenges in this field, mostly related to the robustness and transferability of interpretation approaches, the efficient perception and understanding of RS images, the effective fusion and utilization of multi-modal RS data, etc. This special issue that is aimed at investigating new techniques, algorithms and architectures that can be used to overcome the above-mentioned challenges and bring together the state-of-the-art research in this field.

This special issue accepts review/tutorial papers on the following topics:

- Foundation models for downstream tasks of RS image understanding
- Robust AI architectures for detection, segmentation, and recognition in RS images
- Integration of geographical knowledge and deep neural networks in RS image interpretation
- Development of high-quality and large-scale benchmarks with multi-source data for AI understanding of RS images
- Effective processing using AI of multi-modal/sensor RS data
- Applications, such as smart agriculture, change detection and understanding of RS time series , environmental monitoring and sustainable development, urban/rural monitoring and assessment, natural disaster warning and management

Articles submitted to this special issue of the IEEE Geoscience and Remote Sensing Magazine must contain significant relevance to geoscience and remote sensing and should have noteworthy tutorial/review value. Selection of invited papers will be done on the basis of 4-page White papers, submitted in double-column format. These papers must discuss the foreseen objectives of the paper, the importance of the addressed topic, the impact of the contribution, and the authors' expertise and past activities on the topic. Contributors selected on the basis of the White papers will be invited to submit full manuscripts. Manuscripts should be submitted online at <http://mc.manuscriptcentral.com/grsm> using the Manuscript Central interface. Prospective authors should consult the site <http://ieeexplore.ieee.org/servlet/opac?punumber=6245518> for guidelines and information on paper submission. Submitted articles should not have been published or be under review elsewhere. All submissions will be peer reviewed according to the IEEE and Geoscience and Remote Sensing Society guidelines.

Special Issue tentative schedule:

December 31, 2023	White paper submission deadline
January 31, 2024	Invitation notification
March 31, 2024	Full paper submission deadline
July 31, 2024	Review notification
October 31, 2024	Revised manuscript due
January 31, 2025	Final acceptance notification
February 28, 2025	Final manuscript due
June 2025	Publication date