



## CALL FOR PAPERS

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Special Issue on

“Artificial Intelligence for Hyper and Multi-spectral Remote Sensing Image Processing”

In today's era, when Artificial Intelligence (AI) is being applied in almost every domain of life, satellite remote sensing is no exception. With the constantly improving spatial and temporal resolutions of satellite images, they are proving to be an important asset in the field of land-use, land-coverage, meteorology, vegetation mapping, military applications, disaster risk management, change detection, etc. Effective analysis and classification (pixel, object or scene-level) of hyper-spectral and multi-spectral remote sensing imagery is crucial for the extraction of useful information from them. Due to the advances in the field of AI as well as the availability of vast amount of remote sensing imagery data, traditional image processing techniques along with machine learning and deep learning are being used for interpretation of remote sensing images (RSIs). However, their processing capability is limited by the availability of annotated training data. Some other challenges currently faced by the researchers in this field are complexity of hyperspectral images, high-dimensional, and noisy spatial and spectral data, hyper-parameter tuning of deep learning models for analysis and classification of RSIs etc. These mandate the requirement of advanced computational methods for the analysis and processing of such images. Therefore, we organize this special issue to explore new techniques, algorithms and architectures that can be used to overcome the above-mentioned challenges and bring together state-of-the-art research in this field.

The broad topics include the use of artificial intelligence in the following applications (but are not limited to):

- Change detection for disaster management and assessment
- Land use and land cover analysis
- Environmental monitoring and assessment
- Segmentation of RSIs
- Processing of noisy spatial and spectral data for effective RSI analysis
- Improving deep learning-based RSI classification using GAN
- Object Detection in hyper spectral and multispectral images
- Object tracking in RSI
- Optimizing deep learning models for efficient and accurate RSI classification

### Schedule

Nov. 1, 2022, Submission system opening

May. 30, 2023, 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 “**Artificial Intelligence for Hyper and Multi-spectral Remote Sensing Image Processing**” 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](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

### Guest Editors

Priti Bansal, Netaji Subhas University of Technology, India ([priti.bansal@nsut.ac.in](mailto:priti.bansal@nsut.ac.in))

Vasile Palade, Coventry University, UK, ([ab5839@coventry.ac.uk](mailto:ab5839@coventry.ac.uk))

Vincenzo Piuri, University of Milan, Italy, ([vincenzo.piuri@unimi.it](mailto:vincenzo.piuri@unimi.it))