



## CALL FOR PAPERS

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

#### Special Issue on

#### “Advances in Real-Time Image and Video Processing Techniques for Remote Sensing Applications”

In recent years, remote sensing techniques and their applications have been widely utilized in various fields, including agriculture, forestry, geology, hydrology, land use and land cover, ocean and coastal monitoring, and innovative urban environments. Here, remote sensing plays a prominent role in obtaining information related to temperature, photographs, and other reflected or radiated data. When these data are processed in real time, they can be utilized in critical situations, such as forest fires, cloud tracking, discovery, mapping rugged topography, and many other applications. Most remote sensing data are recorded in digital form, and their advancement is needed to meet the hardware requirement. One promising real-time image-processing-based remote sensing application is the use of satellite imagery data, which encompasses spatial, spectral, and temporal resolutions. Further, in remote sensing, real-time image and video processing based on statistical techniques for real-time monitoring and surveillance requires more efficient computation. Many real-time image and video processing challenges for remote sensing applications include optical instruments, acoustic images, radar, active images, and object detection.

Due to its complexity, handling real-time images for remote sensing applications is undoubtedly tricky. By implementing advanced deep learning-based methods, the existing problems could be overcome. The real-time image and video processing techniques provide a roadmap for various remote sensing applications. Hence, the current research direction focuses on the significant development of remote sensing applications based on multi- and hyperspectral images, remote sensing images, infrared images, and spectral videos. Specifically, remote sensing-based real-time image and video processing offer potential benefits; however, further exploration is needed to develop a precise solution. Notably, a significant contribution is necessary to cover the novel concepts and models related to real-time image and video processing for various fields of remote sensing applications. The list of possible topics of interest are included but not limited to the following:

- A study on the analysis of real-time remote sensing image and video compression techniques
- Real-time remote sensing image quality assessment using statistical methods
- Current advances in security analysis for real-time remote sensing
- Data Processing methods for remote sensing-based Satellite Image analysis
- Classification strategies for different real-time image remote sensing data
- Detection and recognition of objects using real-time remote sensing image and video processing techniques
- Artificial intelligence based real-time processing technique for remote sensing applications
- Sparse representation and compression sensing approaches for real-time remote sensing video
- Future directions of remote-sensing-based real-time image and video data
- Challenges and opportunities in implementing real-time monitoring and analysis in remote sensing
- Deep learning- based moving object detection and tracking in video
- High-resolution remote Sensing Images for Coastal Areas
- Land Use Land Cover Classification from RS Images

#### Schedule

01.07.2025 Submission system opening

31.12.2025 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 “Advances in Real-Time Image and Video Processing Techniques for Remote Sensing 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](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that since Jan. 1, 2024, IEEE J-STARS, as a fully open-access journal, is charging a flat publication fee \$1,800 per paper.

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