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

**Special Issue on**  
**“Collaborative Learning and Optimization for Remote Sensing Image Analysis and Applications”**

Nowadays, remote sensing systems and technology have been intensively studied and widely applied for earth observation, environmental monitoring, land survey, disaster management, etc. The massive amount of remote sensing imagery data generated from various types of sensors mounted in satellites, aircrafts and UAVs poses great challenges to data storage, management and analysis. Meanwhile, security and privacy in terms of both data and techniques are attracting more and more attention. In various applications based on remote sensing imagery data, there exist many tasks relying on machine learning and optimization as solvers, which are two essential tasks that computational intelligence aims to address. Nowadays, there emerge more and more tasks with growing complexity that demand the synergy of machine learning and optimization, so-called Collaborative Learning and Optimization (COLO), e.g., the neural architecture search in deep learning.

This special issue aims to provide a forum for disseminating the achievements related to the research and applications of COLO techniques for remote sensing image (e.g., multi/hyper-spectral, SAR and LIDAR imagery) analysis and applications with topics including but not limited to:

- Machine learning assisted optimization techniques, e.g., data-driven evolutionary optimization
- Optimization assisted machine learning techniques, e.g., deep neural architecture search
- Prescriptive analytics for predictive decision-making
- Transfer learning and federated learning
- Large-scale collaborative learning and optimization
- Remote sensing image denoising, restoration or super-resolution
- Remote sensing image registration
- Remote sensing image segmentation, classification and retrieval
- Target detection and recognition in remote sensing images
- Feature selection, extraction and learning from remote sensing images
- Data fusion or compression from remote sensing images
- Multi-temporal remote sensing image analysis, e.g., change detection
- Security and privacy in remote sensing image analysis and applications

**Schedule**

June 1, 2021                      Submission system opening  
November 30, 2021              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 “**Collaborative Learning and Optimization for Remote Sensing Image Analysis and 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 as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

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