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

Special Issue on “Efficient Algorithms for Machine Learning-Based Remote Sensing Big Data Processing”

The various purposes and special characteristics of remote sensing data have given rise to the use of a wide range of machine learning algorithms. Machine learning technologies have been successfully applied in many aspects of remote sensing data processing and analysis. Due to the recent advances in remote sensors with higher spectral, spatial, and temporal resolutions, the amount of remotely sensed data is increasing at an extremely fast pace, which has posed opportunities and challenges to process and analyze the resulting massive data in a timely fashion to support practical applications. To achieve wider applicability and scalability, the development of efficient and computation-intensive machine learning techniques in data analytics, is in urgent need of advanced models and efficient algorithms. While there have been considerable attempts in the research of machine learning algorithms and parallel computing techniques in remote sensing field, many technical challenges are left open. This special issue intends to promote the state-of-the-art research covering novel machine learning algorithms as well as the application of high-performance solutions to efficiently process and analyze remotely sensed big data.

The special issue invites authors to submit contributions in the following topics (but not limited to):

- Advanced algorithms and models of machine learning for remote sensing big data processing
- Efficient algorithms of machine learning for classification, target detection, hyperspectral unmixing, feature extraction and selection, data fusion, and multi-temporal data analysis
- Content based image and information retrieval
- Distributed and parallel algorithms for remote sensing big data analysis and applications
- High performance computing for remote sensing big data processing and analysis, including data fusion, multi-source data analysis, real-time processing, and on-board processing
- New challenges and opportunities for big data in the context of remote sensing

Schedule

December 1, 2019	Submission system opening
May 31, 2020	Submission system closing
2020	Publication date

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 “Efficient Algorithms for Machine Learning-Based Remote Sensing Big Data Processing” special issue manuscript type. Prospective authors should consult the site <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7416303> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). For a template in this format please see http://www.ieee.org/publications_standards/publications/authors/author_templates.html. Please note that as of Jan. 1, 2020, IEEE J-STARS will become a fully open-access journal charging a flat publication fee \$1250 per paper.

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