



CALL FOR PAPERS

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

Special Issue on

“Deep Learning-based Methods for Modeling Semantic Relations among Remote Sensing Data”

The interpretation of remote sensing data is an evergreen topic in the field of earth observation, playing a vital role in a wide variety of essential applications like urban planning, land-cover analysis, disaster monitoring, and change detection. Recently, with the rapid growth of deep learning techniques, plenty of promising methods have been proposed to facilitate the interpretation of remote sensing data, owing to their prominent capabilities to capture high-level semantics, such as class annotations, topological relations. However, apart from semantic annotations like object labeling and scene annotation, the past decade has seen the rapid development of accurately modeling the semantic relations among remote sensing data. For instance, by enforcing the compactness of intra-class features and splitting inter-class features, the performance of remote sensing scene classification can be further enhanced. In addition, effectively retrieving semantically-similar images or querying object point clouds also requires accurate semantic-relation modeling methods. To this end, this special issue intends to promote cutting-edge methods, regarding accurately and effectively comprehending and capturing semantic relations among remote sensing data of various scenarios, in order to boost the interpretation of remote sensing towards more accurate, autonomous, and cost-effective quality levels.

The broad topics include (but are not limited to):

- Deep metric learning methods for remote sensing data (e.g., SAR, LiDAR, and multi-spectral images).
- Deep learning methods for remote sensing data classification based on the regularization of deep metric losses.
- Deep embedding methods for capturing high-level semantic features from remote sensing data.
- Deep dimension reduction methods for hyperspectral images.
- Deep hashing methods for image or point clouds retrieval.
- Annotated benchmark dataset for interpretation of remote sensing images.
- Large-scale remote sensing data processing on distributed systems or high-performance computational hardware.

Schedule

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| June 1, 2021 | Submission system opening |
| December 31, 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 “**Deep Learning-based Methods for Modeling Semantic Relations among Remote Sensing Data**” 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 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

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|-------------------------|---|
| Ruben Fernandez-Beltran | University Jaume I, Spain (rufernan@uji.es) |
| Jian Kang | Soochow University, China (jiankang@suda.edu.cn) |
| Xian Sun | Chinese Academy of Sciences, China (sunxian@aircas.ac.cn) |
| Yusheng Xu | Technical University of Munich, Germany (yusheng.xu@tum.de) |
| Jingen Ni | Soochow University, China (jni@suda.edu.cn) |
| Antonio Plaza | University of Extremadura, Spain (aplaza@unex.es) |