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

Special Issue on
“New Era of Remote Sensing: Artificial Intelligence Methods and Approaches and Big Data Applications”

With the continuous development of high spatial, spectral, and temporal resolution sensors, remote sensing (RS) has entered an unprecedented big data era. Enabling more efficient big data processing and more accurate information retrieval and extraction, artificial intelligence (AI) technology has made a remarkable difference in remote sensing and numerical weather prediction with different algorithms, such as Decision Trees, Random Forests, particularly Deep Learning (DL). The AI applications has covered most RS fields, including satellite data calibration and quality control, imagery processing, radiative transfer model (RTM), remote sensing inversion and data assimilation, scaling and fusion, and post-forecast correction with extreme weather events. However, the application of AI in remote sensing is still in the early phase. A lot of technique issues are needed to be further resolved.

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

- AI applications for high dimensionality of observations, regression, classification, etc.
- AI applications in sensor measurement emulation, RTM and corresponding model Jacobian.
- AI approaches for SAR image interpretation.
- AI applications for remote sensing in aerosol, O₃, cloud, precipitation, and other atmosphere gases.
- AI applications for forecasting, climate prediction and remote sensing in extreme weather events
- AI for data assimilation, data fusion and data scaling as well.
- AI approaches for big earth data management.
- AI model refinement to increase physical transparency.
- Multiply AI methods for remote sensing to improve accuracy and efficiency.
- Long-term accuracy, stability and consistency for AI applications.

Schedule

Dec 1, 2021 Submission system opening
May 31, 2022 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 “**New Era of Remote Sensing: Artificial Intelligence Methods and Approaches and Big Data 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 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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