Deep Representation Learning in Remote Sensing

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Message from the Guest Editors

Dear Colleagues,

The process of learning representations of data for the purpose of downstream tasks has received much attention in the last decade. In the field of computer vision, transfer learning has become a common practice, with representations learned on the ImageNet dataset often used as a starting point for fine-tuning. Remote sensing images differ from natural images in some crucial ways: they contain numerous objects as opposed to single subjects, they are often multispectral in nature, and they can also be treated as a time-series. As such, specific datasets and techniques are required for effective representation learning in remote sensing. Recent advances in self-supervised and semi-supervised learning show promise in label-scarce and data-rich settings; however, there have been few attempts to specifically adapt these approaches to remote sensing and leverage the inherent spectral, spatial, and temporal structure of remote sensing data.

The aim of this Special Issue is to present novel representation learning modalities, algorithms, and datasets for remote sensing imagery. Topics may cover any type of imagery and downstream tasks.

Special Issue

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Message from the Editor-in-Chief

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