Special Issue

Machine Learning for Atmospheric and Remote Sensing Research

Message from the Guest Editors

This Special Issue aims to bring together pioneering work leveraging ML and AI to meet current and future challenges in atmospheric and remote sensing sciences. Researchers are encouraged to submit contributions that not only demonstrate technical novelty but also advance practical impacts in monitoring, understanding, and managing our environment. Topics of Interest: ML/AI algorithms for satellite, airborne, UAV, or ground-based remote sensing data analysis;
Deep learning techniques for atmospheric parameter retrieval, weather forecasting, and event detection;
ML-empowered environmental monitoring, air quality analysis, climate change studies, and land cover classification;
Explainable, trustworthy, and robust AI methods for geospatial and atmospheric data;
Data fusion, transfer learning, and multi-modal data integration strategies;
ML/AI approaches for limited-data scenarios;
The real-time or edge processing of remote sensing data for atmospheric applications;
Open datasets, benchmarks, and reproducible research in the domain;
Application case studies: disaster monitoring, extreme event forecasting, pollution tracking, and resource management.

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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