Special Issue

Advances in Graph Neural Networks for Spatiotemporal Forecasting

Message from the Guest Editors

The Special Issue centres on theoretical foundations that make GNN-based forecasting reliable, efficient, and transferable, while showcasing high-impact applications in cyber-physical systems such as smart cities, energy, and environmental monitoring. Research areas may include (but are not limited to) the following:

- Theoretical frameworks for GNN-based forecasting;
- Handling irregular, dynamic, and heterogeneous graph signals;
- Latent graph discovery and structure learning for spatiotemporal data;
- Robust and uncertainty-aware spatiotemporal GNNs under noise, missing data, and adversarial conditions;
- Scalable training/inference that preserves spatiotemporal dependencies on large graph networks;
- Federated and privacy-preserving GNNs;
- Explainability and information capacity in GNNs;
- Physics-constrained or physics-informed GNN architectures;
- Benchmarking, reproducibility protocols, and open datasets for smart cities, energy, and environmental forecasting, among others;
- Application case studies: traffic, air quality, energy analytics, finance, and epidemiology with demonstrated societal impact.

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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