Special Issue

Opportunities and Challenges of Network Science in the Age of AI

Message from the Guest Editors

Rapid advancements in Artificial Intelligence (AI), particularly the emergence of sophisticated generative models, are profoundly impacting various scientific disciplines. Network science, with its powerful framework for modeling and analyzing complex systems of interconnected entities, stands at a crucial intersection with AI. This Special Issue aims to explore the synergistic opportunities and inherent challenges arising from this convergence. We invite researchers to contribute cutting-edge work that investigates how network science can empower AI methodologies and, conversely, how AI, including generative AI, can revolutionize the study of networks. This Special Issue will delve into two primary themes:

- **Network Science for AI:** harnessing the principles and tools of network science to enhance the capabilities and understanding of AI systems.
- **AI for Network Science:** leveraging AI techniques, including generative AI, to advance the frontiers of network analysis, modeling, and discovery.

We invite contributions of original research articles, reviews, and perspectives on this cutting-edge topic from researchers in computer science, physics, biology, engineering, and social sciences.

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The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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Editor-in-Chief

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