

Special Issue

AI-Oriented 6G Networks

Message from the Guest Editors

As artificial intelligence increasingly shapes the requirements of global digital infrastructure, sixth-generation (6G) networks are anticipated to function as the foundational substrate for large-scale AI ecosystems. This Special Issue on “AI-Oriented 6G Networks” focuses on the design, optimization, and architectural evolution of 6G explicitly to enable, accelerate, and sustain AI services.

The scope covers theoretical, algorithmic, and system-level developments addressing key AI-centric requirements. Representative themes include communication-efficient distributed and federated learning; networking architectures that integrate edge, device, and in-network computing; compute-communication co-design for AI service guarantees; multi-modal sensing-communication integration; data- and model-flow optimization; and infrastructure strategies for low-latency synchronization and reliable exchange of large AI models. Contributions that investigate how 6G can meet the stringent demands of foundation-model training, multi-agent intelligence, cooperative robotics, and immersive AI applications are especially welcomed.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Network provides full coverage of all topics of interest involved in the networking area. The purpose of this journal is to bring together researchers, engineers, and students from academia and industry to present novel ideas and solid research about the theoretical and practical aspects in the application domains of communications and networks. The primary focus of the journal is on the analysis, modeling, design, simulation, and implementation of networks. This journal will also serve to attract research concerning applying networking architectures and scenarios to emerging research topics such as Internet of Things (IoT), edge computing, distributed ledger technology, among others.

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