Wireless Communications and Mobile Computing

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Special Issue on
Artificial Intelligence for Wireless Communications and Control Networks

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The fifth generation (5G) of wireless networks is currently being deployed. Both industry and academia have started to look beyond the 5G, with the aim to increase the networks' capabilities to serve a massive amount of diversified mobile applications, especially those supported by artificial intelligence, such as intelligent industry and self-driving vehicles.

The performance of such application depends on the intelligent trade-off among computational accuracy, latency, and efficient use of available resources. From this perspective, the wireless networks beyond the 5G are envisioned to significantly extend wireless network depth from single information transmission to intelligent information transmission, storage, and processing, which will maximize the overall performance and quality of experience for various services and applications. Therefore, the study of intelligent wireless communication and control becomes of importance. Moreover, the designed techniques and protocols should be flexible enough to meet the requirements of different verticals (e.g., in terms of connectivity, latency, security, energy efficiency, and reliability).

The aim of this Special Issue is to bring together original research that discuss artificial intelligence for 5G communications and beyond. Submissions should also include artificial intelligence for control networks. Review articles discussing the state of the art are also welcome.

Potential topics include but are not limited to the following:

- Joint communication, computing, and storage resources allocation
- Computation oriented communications
- Artificial intelligence for the convergence of communications, storage, and computing resources
- Distributed artificial intelligence and federated learning in wireless networks
- Wireless data offloading
- Energy efficient scheduling for Internet of Things applications
- Low latency in wireless networked control systems
- Multiple access protocols in systems with distributed computing resources
- Cloud and fog computing-based radio access networks
- Cross-layer based security management
- Wireless networks with multidimensional radio access and backhaul technologies
- Optimization of communication, storage, and computing resources in hybrid terrestrial-aerial networks
- Optimization of computing and storage resources for energy harvesting systems (e.g., with wireless power transfer)

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.hindawi.com/submit?specialIssue=714309.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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