THE IEEE 5G WORLD FORUM IS NOW THE

IEEE Future Networks™ WORLD FORUM • 2022

MONTREAL, CANADA - 12-14 OCTOBER

Call for Papers

AI/ML-DRIVEN COMMUNICATIONS SYMPOSIUM

SYMPOSIUM CO-CHAIRS

Wessam Ajib, Computer Sciences Department, Université du Québec à Montréal, QC, Canada
ajib.wessam@uqam.ca

Elmahdi Driouch, Computer Sciences Department, Université du Québec à Montréal, QC, Canada
driouch.elmahdi@uqam.ca

SCOPE AND MOTIVATION

Recent advances on artificial intelligence (AI) and machine learning (ML) techniques have been taken as a promising enabler for improving the performance and providing intelligent transmission schemes and resource allocation techniques for future networks and particularily in future wireless communication systems. Nevertheless, the effectiveness of ML/AI-driven future networks highly relies on charted AI/ML algorithms as well as the effective resource allocation strategies. Moreover, the development of computing capabilities in future networks has made the implementation of massive AI/ML techniques possible. New trenads such as federated learning and transfer learning are improving the performance of future networks and on the other side openning the issue of developping networks for efficient design and implementation of AI/ML algorithms. This symposium aims for how to utilize advanced AI/ML techniques to solve challenges of future networks and wireless communication systems, including modeling, optimization, design, implementation, deployment, and resource management. High quality papers with theoretical and/or practical results on communication theory and networking from both industry and academia are encouraged.

TOPICS OF INTEREST

We invite submissions on a wide range of research topics, spanning both theoretical and systems research, including results from industry and academic/industrial collaborations, related but not restricted

to the following topics:

- AI/ML-driven resource management in wireless communications
- AI/ML-driven complex network setups
- AI/ML-driven tecniques for distributed designs
- Network architectures based on AI/ML
- AI/ML-driven end-to-end wireless communication system design
- AI/ML-driven prediction for future networks
- Predictive Quality of service based on AI/ML
- Energy efficiency of AI/ML-driven future networks
- Hybrid AI/ML-based methodologies for wireless networks
- Transfer learning for future networks
- Deep unfolding techniques for future networks
- Federated learning techniques for wireless networks
- Reinforcement and federated reinforcement learning for future networks
- Applications of AI/ML to 5G/6G wireless technologies
- Applications of AI/ML to RIS/IRS-empowered wireless networks
- AI/ML-driven techniques for smart radio environments
- Modeling and performance analysis of AI/ML in future networks
- AI/ML-driven medium access control and interference management in wireless networks
- AI/ML- driven networks standards, testbeds, simulation tools, and hardware prototypes
- Architecture and implementation of AI/ML-driven networks
- Challenges and issues in designing AI/ML-driven networks
- Economic aspects of AI/ML-driven networks
- Handoff and routing protocols for AI/ML-driven future networks
- Physical-layer security in AI/ML-driven networks
- Quality of service provisioning in AI/ML-driven future networks
- Waveform design, modulation, and interference aggregation in AI/ML-driven wireless networks

IMPORTANT DATES

Paper Submission: **21 August 2022 (firm)**
Notification: Rolling basis until 31 August 2022
Camera Ready and Registration: 7 September 2022

HOW TO SUBMIT A PAPER

All papers for technical symposia should be submitted via EDAS.

Full instructions on how to submit papers are provided on the IEEE FNWF 2022: https://fnwf.ieee.org/