Call for Papers Track 10 – AI/ML FOR COMMUNICATIONS AND NETWORKING

Track Chairs:

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Scope and Motivation: As Communications and Networks evolve, they are becoming increasingly intricate, surpassing the efficacy of traditional parameter tuning methods and human operator-based decision-making. Conversely, the proliferation of network data, coupled with powerful hardware and advanced machine learning algorithms, presents novel opportunities for data-driven decision-making. Moreover, the emergence of sophisticated applications that leverage data value and AI/ML's knowledge extraction capabilities fuels interdisciplinary research at the confluence of communications, data science, and learning theory. Crucially, AI/ML-driven data-centric approaches offer reliable performance, even in scenarios where some optimization parameters remain unknown, facilitating their practical application in constraint-laden environments. The adaptability and versatility of AI/ML-based communication/networking technologies signify a paradigm shift in next-generation mobile communication systems, characterized by diverse service types. Against this backdrop, this track seeks original contributions in the realm of AI/ML for Communications and Networking.

Topics of interest include, but are not limited to, the following:

- Radio resource management using AI/ML
- RAN intelligent control for O-RAN
- AI-enabled optimization of Radio Access Networks (RAN)
- AI/ML-driven telecom infrastructure optimization
- AI-enhanced Multi-Access Edge Computing (MEC)
- Advancements in AI for signal processing
- AI/ML techniques for channel estimation and prediction
- AI/ML applications in multiple access schemes
- Network slicing through AI/ML
- AI/ML for sensor data mining
- AI/ML-based wireless localization
- AI/ML approaches for routing and management of wireless and sensor networks
- Anomaly detection in wireless and sensor networks using AI/ML
- Distributed and federated learning in wireless and sensor networks
- Transfer learning and meta-learning in wireless and sensor networks
- In-network computation for IoT using AI/ML
- AI/ML techniques for airborne wireless communications
- End-to-end wireless communications leveraging AI/ML
- Privacy-preserving or secure AI/ML for communications and networking
- Utilization of large language models in communications
- Trustworthy and explainable AI for communications and networking