

Cognitive Radio and AI-Driven Networks Symposium

Symposium Co-Chairs

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Scope and Motivation

Recent advances on artificial intelligence (AI) techniques have been taken as a promising enabler for improved spectrum efficiency and intelligent resource allocation in cognitive radio networks. Nevertheless, the effectiveness of AI-driven cognitive radio networks highly relies on charted AI algorithms as well as the effective resource allocation strategies. Moreover, the development of computing capabilities in cognitive radio networks has made the implement of massive AI techniques possible. This symposium aims for how to utilize advanced AI techniques to solve tremendous challenges of cognitive radio networks, including modeling, optimization, design, implementation, deployment, and resources management. High quality papers reporting on applications of communications theory from both industry and academia are encouraged.

Topics of Interest

The scope of this Cognitive Radio and AI-Driven Networks Symposium includes (but is not limited to) the topics below:

- AI-driven medium access control, interference management in wireless networks
- AI- driven networks standards, testbeds, simulation tools, and hardware prototypes
- Al-driven resource allocation in cognitive radio networks
- Architecture and implementation of AI-driven networks
- Attack modeling, prevention, mitigation, and defense in cognitive radio systems
- Challenges and issues in designing AI-driven networks
- Distributed adaptation and optimization in AI-driven networks
- Economic aspects of spectrum sharing in AI-driven networks
- Energy-efficient cognitive radio networks
- Handoff and routing protocols for AI-driven networks

• Integration with other emerging techniques such as massive MIMO, NOMA, intelligent reflecting surface, and full-duplex

- Machine learning techniques for cognitive radio networks
- Modeling and performance evaluation for AI-driven networks
- Performance analysis in designing AI-driven networks
- Physical-layer security in Al-driven networks
- Privacy and security in cognitive radio networks
- Quality of service provisioning in AI-driven networks
- Regulatory policies and their interactions with communications and networking
- Spectrum measurements, sensing and learning in cognitive radio networks
- Spectrum sensing, learning, sharing, and access for Internet of Things, millimeter-wave systems and terahertz systems

• Waveform design, modulation, and interference aggregation in AI-driven wireless networks.

Important Dates

Paper Submission: 15 April 2022 Notification: 25 July 2022 Camera Ready and Registration: 1 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 Globecom 2022 website: <u>https://globecom2022.ieee-globecom.org/</u>