

# AI for 6G

## An International Workshop in Conjunction with 2024 IEEE 100<sup>th</sup> Vehicular Technology Conference (VTC2024-Fall)

The upcoming 6G era promises a hyperconnected world with unprecedented wireless connectivity and network capabilities. Realizing this vision requires embracing artificial intelligence and machine learning across the entire network stack to enable sustainable, reliable, and trustworthy 6G systems.

The IEEE Vehicular Technology Conference (VTC) 2024, with its focus on wireless, mobile, and vehicular technologies, provides an ideal platform to discuss open challenges and shape the future role of AI in enabling sustainable, reliable, and trustworthy 6G technologies. This one-day workshop aims to bring together researchers from mobile communications, applied AI/ML, industry players, and vendors to exchange ideas on AI-driven innovations that address the sustainability, reliability, and trustworthiness matters in 6G.

Paper and poster presentations are intended to stimulate discussions among workshop participants: reflections on the past, descriptions of current initiatives, visions of the future, and new results in AI for 6G research and practice are welcome. If interested in participating as an author, full papers should be submitted for review. A full paper can be up to 7 pages in length, just note that papers longer than 5 pages will require the purchase of additional page charges at the time of registration and final paper submission.

Collaborations fostered at this workshop will accelerate impactful advances at the intersection of 6G and AI, driving innovation in the development of future communication systems. Panel discussions with industry leaders will provide unique perspectives on integrating AI for these key requirements into future 6G network architectures and applications. The workshop topics on energy efficiency, flexible air interfaces, resilience, AI explainability, human-network interfaces, and security/privacy are highly relevant to both the AI/ML and mobile networking communities.

This workshop will provide a focused forum to disseminate the latest AI research tailored to enable sustainable, reliable, and trustworthy networks and gather cross-disciplinary input on the role of ML in this emerging domain.

Topics of interest include but are not limited to:

### Sustainability

- AI for energy-efficient 6G networks
- Energy-efficient AI model optimization for 6G applications and infrastructure

### Reliability

- Machine learning for flexible, configurable, and intelligent air interfaces
- AI-driven beamforming, massive MIMO, and millimeter-wave/THz communications
- AI for resilient and self-organizing 6G networks

### Trustworthiness

- Explainable AI for 6G systems and standardization
- LLMs for intuitive human-network interfaces and enabling new 6G services
- AI for secure and privacy-preserving 6G communications

Workshop paper submission due (Extended):

**26 July 2024**

Workshop paper acceptance notification:

**22 August 2024**

Final paper submission:

**5 September 2024**

Workshop website and submissions:

**<https://ai-for-6g.com>**

Organizing Committee:

- Dr. Sina Shafaei (Vodafone, Germany)
- Dr. Philipp Schulz (TUD, Germany)
- Muhammad Qurratulain Khan (TUD, Germany)
- Mohammad Parvini (TUD, Germany)
- Dr. Riccardo Trivisonno (Huawei, Germany)
- Dr. Guenter Klas (Vodafone, UK)
- Dr. Simone Mangiante (Vodafone, UK)

**7 October 2024, Washington DC, USA**



Endorsed by:

