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Blockchain for 6G

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Abstract: It is envisioned that the 6G wireless system will be a more intelligent, open, transparent, converged, distributed, and shared infrastructure. At the same time, 6G networks need to be trustworthy and provide user-centric security and privacy protection. 6G trends (e.g., native AI, decentralized and converged communication and computing) demand a new paradigm that can deliver incentivization, decentralized trust, security, and higher performance. As a decentralized communication, networking, and computing technology, blockchain fits these 6G trends and can empower 6G networks. This talk focuses on opportunities and challenges of leveraging blockchain for 6G. It will first briefly discuss 6G trends and the latest progress in blockchain technology. Then, selected use cases and architectural designs of blockchain for 6G will be presented (e.g., blockchain for wireless resource management, blockchain for wireless AI). Finally, future directions and visions on blockchain for 6G will be shared.

Bio: Chonggang Wang is currently a Principal Engineer with InterDigital, Inc., USA. He has more than 20 years of experience in the fields of wireless communications, networking, and computing, including research, development, and standardization. His recent research interests include NextG wireless networks and system, blockchain and distributed ledger technology, collaborative and distributed artificial intelligence. He was/is the rapporteur of several blockchain-related work programs with ETSI Industry Specification Group (ISG) on Permissioned Distributed Ledgers (PDL). He is the Founding Editor-in-Chief of the IEEE Internet of Things Journal and is currently the Editor-in-Chief of IEEE Network Magazine. He is a Fellow of the IEEE.