

**Title:**

Artificial Intelligence for Edge Computing

**Abstract:**

Edge Computing is a new computing paradigm where server resources, ranging from a credit-card size computer to a small data center, are placed closer to data and information generation sources. Application and systems developers use these resources to enable a new class of latency and bandwidth sensitive applications that are not realizable with current cloud computing architectures. Edge computing represents a counterpoint to the consolidation of computing into massive data centers, which has dominated the discourse in cloud computing for well over a decade. Popular terms such as micro-data centers, intelligent edges, cloudlets, and fog have been used interchangeably to describe edge computing.

Artificial intelligence techniques can be applied in the edge computing to develop some various smart systems it includes smart city and smart home, smart grid, smart industry, smart vehicle, smart health, and smart environmental monitoring. New AI and ML real time or execution time algorithms are needed, as well as different strategies to embed these algorithms in edges. New clustering and classification techniques, reinforcement learning methods, or data quality approaches are required, as well as distributed AI algorithms.

The aim of this workshop is to offer a forum for exchanging and proposing new ideas and techniques related with the design and usage of artificial intelligence techniques in edge computing. More specifically, we invite recent advanced research on artificial intelligence techniques privacy enhancing technologies and secure cryptographic techniques to address performance and security challenges in the field of edge computing.

**Scope and Topics:**

Potential topics include but are not limited to:

- ✧ AI for smart data storage in edge computing
- ✧ Intelligent real-time big data analytics, processing, and storage in edge computing
- ✧ Intelligence image processing algorithms for Edge computing.
- ✧ Intelligent algorithms for edge computing
- ✧ Artificial Intelligence models for edge computing
- ✧ Machine learning for edge computing
- ✧ Automated reasoning and inference for edge computing
- ✧ Clustering and classification algorithms for Edge computing.
- ✧ Deeping learning and reinforcement learning for edge computing



- ✧ Expert systems and Hybrid systems for Edge computing
- ✧ Multi-agent systems for edge computing
- ✧ Distributed systems design for AI in edge computing
- ✧ Intelligent resource scheduling and management in edge computing
- ✧ Novel applications and experiences with edge computing
- ✧ Intelligent real time algorithms for edge computing.
- ✧ Intelligent security proposals for edge computing.
- ✧ Blockchain in edge computing.
- ✧ Applications of AI for security and privacy in edge computing

### **Program Committee Chairs:**

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Bio: Dr. Fang Liu is an associate professor of Sun Yat-sen University's '100 Top Talents Program'. She was an associate professor in the College of Computer, National University of Defense Technology (NUDT), China. Fang Liu received her bachelor's and Ph.D degree in computer science and technology with honor from NUDT in 1999 and 2005, respectively. Her current research interests include edge computing, storage system, computer architecture. Fang Liu is a senior member of China Computer Federation. She has published the first book on Edge Computing as the second author in 2018. She has published over 80 academic papers. Part of her work on edge computing is in part supported by National Science Foundation of China.

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Yangyang Li received his Ph.D. in Computer Science from Beijing University of Posts and Telecommunications in 2015, and his B.S. degree from Nanjing University of Information and Technology in 2009. He is now with Mobile Internet Development and Research Center, China Academy of Electronics and Information Technology. His research interest includes mobile internet, data center network, and edge computing.

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Daniel received his B.S. in Communication Engineering and M.S. in Communications and Information Systems from Wuhan University. He obtained his Ph.D. degree in Computer Science from the Hong Kong Polytechnic University, under the supervision of Prof. Rocky K.C. Chang. After that, Daniel spent two years at the Georgia Institute of Technology as a post-doctoral research fellow advised by Prof. Wenke Lee. His current research interests include Mobile Security and Privacy, Network Security and Privacy, Software Engineering, Blockchain, Internet Measurement, and Cloud Computing.

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