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Towards Efficient and Reliable AI at the Edge

Guest Editor:

Dr. Palden Lama

Department of Computer Science, the University of Texas at San Antonio, San Antonio, TX 78249, USA

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Message from the Guest Editor

The deployment of AI models on edge devices has gained significant traction due to its potential to enable real-time decision-making and alleviate the dependency on cloudbased services. However, this burgeoning field faces numerous challenges such as limited computational resources, power constraints, and unreliable network connectivity. Moreover, with critical infrastructure embracing AI-capable devices, ensuring reliability and security also becomes crucial.

- Efficient AI model design for edge devices: Model compression and quantization; Lightweight network architecture; Federated learning and collaborative approaches
- Optimization of edge device resources: Energy efficient computing and communication: Dynamic resource management: Edge-cloud collaboration
- Reliable operation of edge AI: Robustness against hardware failures; Fault tolerance and resilience
- Security and privacy in edge AI: Secure model deployment; Privacy preservation techniques; Defense against adversarial attacks
- Evaluation and benchmarking of edge AI: Realworld case studies and evaluation; Comparative analysis of edge AI frameworks; Evaluation frameworks for edge AI systems



Specialsue





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Prof. Dr. Flavio Canavero

Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

Message from the Editor-in-Chief

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