



## Towards Efficient and Reliable AI at the Edge

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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 cloud-based 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: Real-world case studies and evaluation; Comparative analysis of edge AI frameworks; Evaluation frameworks for edge AI systems





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## Message from the Editor-in-Chief

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