

Special Issue

Security and Privacy Challenges in Integrated IoT and Edge Systems

Message from the Guest Editors

This Special Issue aims to provide a forum for the latest advances in securing integrated IoT-edge ecosystems. We welcome contributions ranging from theoretical frameworks and algorithmic innovations to system architectures, prototypes, and real-world case studies.

Topics of interest include, but are not limited to, the following:

- Lightweight cryptographic and authentication protocols for IoT-edge devices;
- Threat modeling, risk assessment, and vulnerability analysis in IoT-edge environments;
- Privacy-preserving machine learning and federated learning at the edge;
- Blockchain and distributed ledger technologies for IoT-edge security;
- Zero-trust frameworks and adaptive access control in decentralized IoT-edge systems;
- Intrusion detection and anomaly detection using edge AI;
- Adversarial attack detection, model poisoning, and defense in federated edge intelligence;
- Generative AI-enabled threats and AI-driven defenses for IoT-edge networks;
- Digital twin-based security validation and predictive intrusion modeling;
- Self-healing and autonomous recovery mechanisms for resilient IoT-edge infrastructures;
- Zero-knowledge proofs and advanced privacy-preserving protocols for real-time IoT data.

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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