

Special Issue

Agent- and Data-Driven IoT Security: From Analysis to Autonomous Protection

Message from the Guest Editors

IoT security faces challenges from heterogeneous data, expanded attack surfaces, and resource constraints. Traditional rule-based approaches lack scalability and adaptability. Recent AI advances (LLMs, agentic AI) enable semantic reasoning and cross-domain integration for analyzing logs, firmware, traffic, and threat intelligence, supporting anomaly detection and automated response. This Special Issue invites advances including:

- Security, privacy, and trust for agent-enabled IoT
- Robustness against adversarial threats (evasion, poisoning, backdoor)
- Privacy preservation: federated learning, secure sharing, lightweight methods
- Resource-efficient learning and inference for IoT agents
- Autonomous threat detection and self-evolving defense
- Coordination of distributed security agents
- Malicious behavior detection
- Integration of agent-based methods with IDS, firmware analysis, and monitoring
- Secure deployment and lifecycle management
- Scalable solutions for smart homes, IIoT, smart cities, infrastructure

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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.

Editor-in-Chief

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