Special Issue

Recent Advances in Security, Resilience, and Multi-Objective Optimization of Cyber-Physical Systems

Message from the Guest Editors

Cyber-Physical Systems (CPS) are the digital backbone of smart grids, Industry 4.0, autonomous transportation, and connected healthcare. Their tight integration of computation, communication, and control makes them both performance-critical and cyber-vulnerable. This special issue invites innovations in real-time control, system integration, security, and machine learning for CPS, emphasizing their role in solving complex realworld problems like autonomous systems, industrial Internet of Things (IoT), and smart healthcare. Topics of Interest (include but are not limited to):

- Attack detection, isolation, and mitigation for sensor, actuator, and network layers of CPS
- Formal verification, runtime monitoring, and digitaltwin-based security assessment
- Real-time resource allocation under safety, security, and energy constraints
- AI/ML-driven control and scheduling with provable guarantees
- Edge-cloud orchestration for latency-reliability tradeoffs in large-scale CPS
- Game-theoretic, learning-based, and adaptive control approaches for secure and resilient CPS
- Federated and privacy-preserving learning in distributed CPS
- Generative AI for threat modeling and automated system hardening

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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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