

34th IEEE International Symposium on Industrial Electronics (ISIE 2025)

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Toronto, Canada

Special Sessions on

“Securing the Future of Mobility: Cyber-Physical Security in Autonomous Electric Vehicles”

Organized by

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Call for Papers: Special Session

The rapid evolution of autonomous electric vehicles (AEVs) is reshaping the future of mobility, offering significant advancements in efficiency, sustainability, and convenience. However, the increased connectivity and complexity of these vehicles introduce critical cyber-physical security challenges that need to be addressed to ensure safety and reliability. This special session aims to bring together researchers, practitioners, and industry experts to discuss the latest developments, innovations, and practical solutions for enhancing the security of AEVs. We invite original research papers and case studies that focus on cyber-physical security issues related to autonomous electric vehicles. Topics of interest include, but are not limited to:

- Cybersecurity Threats and Risk Assessment in AEVs
- Intrusion Detection and Prevention Systems (IDPS)
- Anomaly detection strategies
- AI and GenAI for Security in AEVs
- Secure Communication Protocols for V2X (Vehicle-to-Everything) Networks
- Penetration Testing and Security Validation for AEVs
- Hardware and Software Security in Electric Powertrains and Control Systems
- Resilient Architectures and Fault-Tolerant Systems
- Integration of Cyber-Physical Security Standards and Regulations
- AI and Machine Learning for Predictive Security in AEVs
- Smart Charging and Vehicle-to-Grid (V2G) Security
- Dataset for cybersecurity strategies

We kindly request the contributors to confirm your interest in participating by reaching out to one of the session organizers on or before **November 26, 2024**. In your response, please include the following information:

- A brief summary of your proposed paper (this will help us plan and organize the sessions effectively),
- A list of authors,
- The proposed title of your paper.

We look forward to your participation and appreciate your timely response.

Organizers

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Deadlines (following the ISIE 2025):

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| • Special Session Paper Submission | March 31, 2025 |
| • Paper Submission Acceptance Notification | April 15, 2025 |
| • Camera-ready paper submission | May 14, 2025 |

Accepted and presented papers will be published in the conference proceedings, and submitted for inclusion in IEEE Xplore on-line digital library.

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IES Technical Committee Sponsoring the Special Session:

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