

ICIT 2023

The 24th IEEE International Conference on
Industrial Technology
Orlando FL, USA | 4 - 6 April, 2023



ICIT 2023 Special Session Proposal

Title of the Proposal: Artificial Intelligence for Cybersecurity of Critical Industrial Infrastructure

Technical Outline of the Session and Topics:

Outline of the Session:

The resilience of critical infrastructure is imperative for the safe, secure and effective operation of nations and communities. Critical industrial infrastructure such as, power grids, telecommunication networks, transportation systems, primary utilities and emergency services are increasingly subjected to cyberattacks aimed at sabotage, espionage and coercion. Given the digital and online presence of such infrastructure, human expertise alone is insufficient to predict, detect, mitigate, and recover from potential threats and attacks. Artificial Intelligence algorithms, techniques and systems are primed to address this challenge by enabling, supporting and automating the cybersecurity tasks within critical industrial infrastructure. To this end, this special session invites articles on the following topics of Artificial Intelligence for Cybersecurity of Critical Industrial Infrastructure.

Topics of the Session:

- AI for the detection and classification of cyber threats and attacks
- Predictive AI for the Cybersecurity of Critical Industrial Infrastructure
- Generative AI and Large Models in cyberthreat mitigation and recovery
- AI platforms for the Cybersecurity of Critical Industrial Infrastructure
- AIOps and deployment strategies for Cybersecurity
- Industrial Infrastructure protection mechanisms using intelligent agents

IEEE IES Technical Committee Sponsoring the Special Session (if any): IEEE IES Technical Committee on Technology Ethics and Society

Short bio and contact details of the Session Organizers



Daswin de Silva is Associate Professor and Deputy Director of the Research Centre for Data Analytics and Cognition (CDAC) at La Trobe University, Australia. Daswin's research interests include deep learning, autonomous learning, active perception, information fusion, cognitive computing, neuromorphic computing, AI ethics, natural language processing, deep emotions, psycholinguistics, and intelligent cloud platforms. He has applied AI and automation in practical industrial settings of smart cities, energy and transport. He is an Associate Editor of the IEEE Transactions of Industrial Informatics and the IEEE Open Journal of the Industrial Electronics Society. He is the Secretary of the IEEE IES Technical Committee on Technology Ethics and Society and Chair of the IEEE IES Sub-Committee on Big Data and Machine Learning. He is an award-winning lecturer in Artificial Intelligence, Data Analytics and Automation, with significant contributions to curriculum development, pedagogical innovations and industry engagement at La Trobe. He currently supervises eight doctoral candidates working on theoretical, applied and industry focused challenges of AI and automation.



Milos Manic is a professor with the Computer Science Department at Virginia Commonwealth University and is the director of the VCU Cybersecurity Center. He is also a Commonwealth Cyber Initiative Fellow, inaugural class 2020-2022. As a principal investigator or university partner, he has completed more than 40 research grants with the departments of Energy, Homeland Security, Air Force, Battelle Energy Alliance/Idaho National Laboratory, National Science Foundation, and industry entities, in the area of data mining and machine learning applied to cybersecurity, critical infrastructure protection, energy security, and resilient intelligent control. Manic has given over 40 invited talks around the world, authored more than 200 refereed articles in international journals, books, and conferences, holds several U.S. patents and won the 2018 R&D 100 Award for Autonomic Intelligent Cyber Sensor (AICS), one of top 100 science and technology worldwide innovations in 2018. He is also an inductee of U.S. National Academy of Inventors (class of 2019). He is an IEEE Fellow, recipient of IEEE IES 2019 Anthony J. Hornfeck Service Award. He also received the 2012 J. David Irwin Early Career Award and 2017 IEM Best Paper Award. He serves as an associate editor of Transactions on Industrial Informatics, Open Journal of Industrial Electronics Society, and is IES Officer and Senior AdCom member. He served as associate editor of Trans. on Industrial Electronics, was a founding chair of IEEE IES Technical Committee on Resilience and Security in Industry, and a general chair of IEEE IECON 2018, IEEE HSI 2019.