



ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

Chicago | Illinois, November 3-6, 2024

Special Session on

The Responsible Practice of Generative Artificial Intelligence for Industrial Applications and Systems

Organized and co-chaired by:

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Call for Papers

Technical Outline of the Session and Topics:

Generative Artificial Intelligence (AI) is transforming the way we live and work through numerous practical applications of intelligence, insights and decision-making. These generative intelligence capabilities have expanded into industrial applications and systems, leading to diverse opportunities for innovation in research, development, practice, as well as training and education. For instance, in energy systems, Generative AI can be used to inform decisions on renewables integration, energy conservation measures, energy optimization and predictive maintenance, while in robotics, it is contributing to trajectory planning, state estimation, adaptive vision and human interaction. In parallel to these rapid technical innovations, the risks of AI are also growing. AI that is poorly designed, developed and evaluated without consideration of the broader socio-technical landscape of operation, can result in system failures, service disruptions, security violations and even human casualties. This special session invites novel research articles in the theory, application and evaluation of Responsible AI and Generative AI for industrial applications and systems.

Topics of the Session include, but are not limited to:

- Application of Generative AI in industrial settings and domains
- Responsible AI development and evaluation
- AI for predictive modelling and maintenance
- Causal AI for industrial applications
- Large language models in industrial practice
- Generative AI chatbots
- Anomaly detection and classification in industrial applications
- Reinforcement learning with human feedback for industrial settings
- Integration and interoperability of AI applications
- Deployment and containerisation of Gen AI Applications
- Algorithmic bias and risk factors in industrial settings

Author's schedule:

Deadline for submission of special session papers	April 15, 2024
Notification of acceptance	June 10, 2024
Deadline for submission of final manuscript	July 01, 2024

Early submission is highly encouraged for early decision notifications!



All the instructions for paper submission are included in the conference website:

www.iecon-2024.org