



Call for Papers

IEEE Open Journal of Instrumentation and Measurement (IEEE OJIM)

Special Section on

Artificial Intelligence for Machine Fault Diagnosis

With the rapid technological development and production requirement, machines and equipment in modern industry such as advanced manufacturing, transportation, aerospace, and civil infrastructure become increasingly functional and complex. Machine fault diagnosis plays a significant role for the productivity, reliability, and safety of industrial systems. In the recent decade, data-driven solutions have become more effective and promising for fault diagnosis of complex machines due to increasing data availability and processing capacity. Artificial intelligence (AI) techniques, especially deep learning approaches, are the most powerful tools in achieving accurate fault diagnosis of complex systems. However, AI-based fault diagnosis still faces great challenges in feasibility and reliability for real applications, including the lack of fault condition data, varying working conditions, insufficient generalization capability of AI models, black-box nature of most AI methods, etc.

This special section focuses on advanced and innovative solutions to address a broad view of problems about AI-based machine fault diagnosis. The contributions are encouraged to develop novel AI frameworks, particularly concentrating on their effectiveness, intelligence, and reliability, that can be used in the area of machine fault diagnosis. We welcome both theoretical innovations and real-world applications with field implementation and experiments. The topics for this special section include but are not limited to the following:

- New-generation AI technology for fault diagnosis
- AI enabled data augmentation technology for fault diagnosis
- AI methods for condition-based maintenance
- Explainable deep learning methods for fault diagnosis
- Reinforcement learning methods for fault diagnosis
- Transfer learning methods for fault diagnosis
- Incremental learning methods for fault diagnosis
- Federated learning methods for fault diagnosis
- Traditional machine learning methods for fault diagnosis

Each accepted paper for this Special Section will receive an Open Access fee waiver; i.e., accepted papers won't be charged Open Access fee.

Deadlines

Submission: June 1, 2022
First decision: June 25, 2022
Final decision: August 5, 2022
Publication Volume: 2022

For more info and submission instructions, please visit OJIM's official website: <http://ojim.ieee-ims.org/>

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