Special Issue

Advanced Signal Processing Technologies for Mechanical Fault Diagnosis in Mechatronics and Intelligent Systems

Message from the Guest Editors

Mechanical fault diagnosis plays a crucial role in ensuring the reliability, safety, and efficiency of industrial systems, including electric drives, mechatronic assemblies, and collaborative robots. The increasing demand for predictive maintenance, coupled with the complexity of modern machinery, has led to rapid advances in signal processing, including intelligent, hybrid, and data-driven techniques. Advanced signal processing has become a key enabler for the accurate detection, localization, and classification of mechanical faults, even under nonstationary, noisy, and fault-tolerant conditions. Topics of interest include, but are not limited to, the following:

- Time–frequency and wavelet-based fault detection;
- Machine learning and deep learning in vibration and acoustic signal analysis;
- Fuzzy logic and hybrid intelligent diagnostic systems;
- Fault-tolerant control and monitoring;
- Sensor fusion techniques for diagnostic accuracy;
- AI-based prognostics and health management (PHM);
- Feature extraction and selection in noisy environments.

Looking forward to Your Contribution!

Guest Editors

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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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