Special Issue

Symmetry in Fault Detection and Diagnosis for Dynamic Systems

Message from the Guest Editors

- Due to increasing demands on the reliability and safety of technical processes, multiple fault detection and diagnosis methodologies have been proposed in the literature, broadly divided into model-based techniques, knowledge-based methods, and empirical or signal processing techniques. Faults can occur at any instant in dynamic systems, and in many cases can be generated by the drift of one or multiple parameters of the dynamic system. These changes can be useful to compare healthy and faulty systems when applying different approaches and methodologies.
- In this context, this Special Issue aims to highlight both academic and real advancements in fault detection and diagnosis applications for dynamic systems, using conventional and artificial intelligence advanced techniques that emphasize symmetry. Here, symmetry plays an important role in the following ways: data for deep learning; data for machine learning, fault feature extraction or matching in terms of symmetry, fault detection or matching in terms of symmetry, and data segmentation and classification, among others.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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