Special Issue

Fault Diagnosis Methods Based on Information Theory or Machine Learning: From Theory to Application

Message from the Guest Editors

In smart systems, faults are detected at an early stage and classified, and the system lifetime is predicted to optimize maintenance operations. In order to meet these requirements, new monitoring algorithms are continuously developed. These algorithms integrate state-of-the-art signal and data analysis/processing techniques, entropy-based study, statistical learning, and machine learning or deep learning approaches.This Issue will focus on the application of all of these signal and analysis/processing techniques for the health monitoring of complex systems. Particular attention is paid either to statistical/entropy-based detection/estimation techniques and machine learning/deep learning-based diagnosis techniques. Many approaches are concerned with topics such as quantitative approaches with wide and efficient physical modeling, qualitative approaches, and data driven approaches. For this Issue, either theoretical or applicative works will be considered. Particular attention will be paid to applications in tune with time such as human health, renewable-energy-based systems, energy conversion systems, smart grids, mechanical systems, vehicular and industrial applications, etc.

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Deadline for manuscript submissions

closed (28 February 2023)

Entropy

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 4.9
Indexed in PubMed

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

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