Special Issue

Applications of Artificial Intelligence and Soft Computing in Process Systems Engineering

Message from the Guest Editors

This Special Issue aims to highlight innovative research and development of AI and soft computing techniques within process systems engineering (PSE). This Special Issue seeks to explore the transformative potential of AI methodologies, such as machine learning and deep learning, alongside soft computing approaches like fuzzy logic, genetic algorithms, and evolutionary computation in optimizing, controlling, and enhancing industrial processes to support the goals of Industry 5.0, such as developing sustainable and resilient systems.

We welcome the submission of original research articles, reviews, and case studies that address various aspects of PSE, including, but not limited to, the following: Machine learning and deep learning for process optimization;
Reinforcement learning in process systems engineering;
Neural networks in process control and monitoring;
Fuzzy logic applications in industrial systems;
Genetic algorithms and evolutionary computation for process design;
AI-based predictive maintenance and fault detection;
Integration of AI and IoT in process systems;
Soft computing for supply chain and logistics optimization;
Real-time process monitoring using AI techniques.

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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