Special Issue

Advanced Machine Learning and Data Analysis Technologies in Modern Energy Systems

Message from the Guest Editor

Topics of interest include, but are not limited to, the following:

- Machine learning for load forecasting, renewable generation, and energy demand modeling;
- Fault diagnosis, prognosis, and resilient control in power generation and distribution systems;
- Data-driven modeling of complex energy processes and hybrid energy systems;
- Explainable AI and interpretable machine learning in energy system monitoring;
- Residual signal analysis and zero-dynamics methods for energy system fault detection;
- Multi-source heterogeneous data fusion for smart energy management;
- Digital twins and virtual sensors in energy system operation and optimization;
- Real-time anomaly detection and predictive maintenance in energy infrastructures;
- Optimization of integrated energy systems using reinforcement learning and metaheuristics;
- Applications in power grids, microgrids, smart buildings, and industrial energy systems.

We welcome original research articles, comprehensive reviews, and application-oriented studies that demonstrate the effectiveness of intelligent data analysis in advancing the reliability, efficiency, and transparency of energy systems.

Guest Editor

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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