Special Issue

Artificial Intelligence in Photovoltaic Systems: Advanced Modeling, Optimization, Forecasting, and Fault Diagnosis

Message from the Guest Editors

This Special Issue focuses on advanced AI-driven strategies that transcend traditional engineering practices, contributing to more effective energy management, reduced operational costs, and enhanced system performance. Contributions from power electronics, control systems, computer science, and energy engineering are particularly encouraged.

Topics of interest include, but are not limited to:

- AI-based modeling and performance prediction;
- Predicting photovoltaic (PV) performance;
- AI-driven system optimization and control;
- AI-enabled solar forecasting;
- Intelligent fault detection and diagnosis;
- Real-time monitoring and predictive maintenance;
- IoT and smart grid integration for PV systems;
- Hybrid and multi-agent AI approaches;
- AI for energy storage and microgrid management;
- AI applications in the sustainable energy transition.

We look forward to considering your submissions.

Guest Editors

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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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