Special Issue

AI-Driven Optimization in Intelligent Process Control for Power and Energy Systems

Message from the Guest Editors

- Deep reinforcement learning for real-time control of power and energy processes;
- AI-based modeling and predictive control in nonlinear and uncertain environments;
- Swarm intelligence and metaheuristics for distributed energy resource coordination;
- AI-enhanced stability control in microgrids and autonomous power subsystems;
- Federated and privacy-preserving learning in distributed control frameworks;
- Intelligent fault detection, diagnosis, and reconfiguration of power systems;
- Hybrid models combining symbolic AI with process dynamics for interpretable control;
- Digital twins for real-time optimization and simulation of energy processes;
- Adaptive process automation and self-tuning control strategies using AI;
- Multi-objective optimization in energy systems using evolutionary algorithms;
- Cyber-physical security enhancement using AI-driven anomaly detection;
- Data-driven system identification and process learning for smart grids;
- Intelligent control of energy storage systems and renewable integration;
- Edge and cloud-based AI architectures for scalable energy control.

Guest Editors

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Deadline for manuscript submissions

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Editor-in-Chief

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