



Advances in Artificial Intelligence: Models, Optimization, and Machine Learning, 2nd Edition

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Message from the Guest Editors

Nowadays, artificial intelligence is an integral part of scientific progress. Various methods have been used to solve problems that were considered challenging until now. AI has the potential to offer tools for learning, knowledge discovery, and decision-making that can outperform human abilities and can be used in a large number of application domains. This Special Issue will focus on recent theoretical and computational studies of artificial intelligence, with a focus on models, optimization, and machine learning. Topics include, but are not limited to, the following:

1. Deep learning and classic machine learning algorithms;
2. Neural modeling, architectures, and learning algorithms;
3. Neuro-symbolic models and explainable artificial intelligence models;
4. Spiking neural networks: theory and applications;
5. Hebbian learning and other biologically plausible neural models;
6. Optical neural networks;
7. Biologically inspired optimization algorithms;
8. Algorithms for autonomous driving;
9. Reinforcement learning and deep reinforcement learning;
10. Probabilistic models and Bayesian reasoning;
11. Adaptive systems;
12. Intelligent agents and multiagent systems.

Special Issue



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Message from the Editor-in-Chief

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