

Special Issue

Advanced Machine Learning Techniques for Big Data Challenges

Message from the Guest Editors

In the era of big data, advanced machine learning techniques are increasingly being leveraged to extract valuable insights from big data and drive decision-making in various fields. This Special Issue aims to collect papers that explore and leverage advanced machine learning techniques (e.g., generative artificial intelligence (GAI), large language models (LLM), graph neural networks, reinforcement learning, federated learning, self-supervised learning, transfer learning, ensemble learning) to embrace valuable opportunities and to address multifaced challenges posed by big data. The scope of this Special Issue encompasses a wide range of topics, including but not limited to: innovative machine learning algorithms designed for large-scale data processing; techniques for dimensionality reduction and feature selection in high-dimensional data; strategies for handling noisy, incomplete data, or data synthesis; approaches for bias mitigation and fairness in LLM, knowledge distillation in LLM, and AI Agent; applications of advanced machine learning in various domains (e.g., fintech, e-commerce, healthcare, recommendation, and intelligent manufacturing).

Guest Editors

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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