

Special Issue

Advanced Methods in Machine Learning and Statistics for Big Data in a Sustainable Society

Message from the Guest Editor

The expansion of big data in healthcare, finance, engineering, and environmental sciences has created a need for advanced machine learning and statistical techniques to extract insights from complex datasets.

This Special Issue bridges mathematical theory, statistical modeling, and machine learning to address challenges in big data analytics. We welcome original research and review articles on innovative methodologies, theoretical advancements, and applications in machine learning, deep learning, Bayesian inference, optimization, and statistical modeling. Topics include:

- Mathematical foundations of machine learning.
- Scalable learning algorithms for high-dimensional data.
- Bayesian and probabilistic approaches in machine learning.
- Optimization techniques for large-scale machine learning.
- Interpretable and explainable AI in big data.
- Applications in healthcare, economics, and agriculture.

This Special Issue highlights interdisciplinary approaches integrating applied mathematics, statistics, and machine learning to solve real-world problems. We invite researchers to contribute their latest findings.

Guest Editor

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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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).