

Special Issue

Robust Statistics in the Modern Era: From Classical Foundations to AI-Driven Applications

Message from the Guest Editor

Robust statistics has long played a central role in ensuring reliable inference in the presence of outliers, model misspecification, heavy-tailed distributions, and contaminated data. From its classical foundations in robust estimation and hypothesis testing, the field has continued to evolve in response to the increasing complexity, scale, and heterogeneity of modern data. Today, robust statistical methods are more relevant than ever, particularly in the context of high-dimensional data, large-scale computation, and artificial intelligence-driven applications.

This Special Issue will bring together researchers working on theoretical developments, methodological innovations, and practical applications of robust statistical techniques. We seek contributions that advance the understanding of robustness in both classical and modern settings, as well as papers that demonstrate the impact of robust methods in real-world problems arising in data science, machine learning, and AI, including applications in environmental sciences where data are often noisy, incomplete, and subject to extreme events.

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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