

Special Issue

Advances in Signal Processing and Machine Learning: Theory, Algorithms, and Applications

Message from the Guest Editor

The fields of signal processing (SP) and machine learning (ML) have long been intertwined, with SP providing foundational theories for data representation and transformation and ML offering powerful tools for pattern recognition and decision-making. In recent years, this synergy has entered a new era of unprecedented collaboration. The explosion of complex, high-dimensional data from sensors, networks, and multimedia systems demands solutions that are not only statistically intelligent but also physically aware, computationally efficient, and robust. This Special Issue aims to collect cutting-edge research at the intersection of these two dynamic fields. We seek to explore how traditional signal processing principles can inform, stabilize, and enhance machine learning models, and conversely, how advanced ML techniques can solve long-standing SP challenges in novel ways. The goal is to foster the development of interpretable, efficient, and trustworthy intelligent systems that are grounded in solid signal processing theory.

Guest Editor

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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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