

Special Issue

Heuristic Optimization and Machine Learning

Message from the Guest Editor

Currently, the combination of heuristic optimization with machine learning is a rapidly developing field and one of the most successful trends in optimization. The aim of this Special Issue is to explore this integration from a broad perspective, bringing together the latest research achievements of scholars studying and developing theoretical and practical applications in both fields.

Topics include, but are not limited to:

- Machine learning techniques for improving heuristic and metaheuristic optimization;
- Evolutionary algorithms for generating artificial neural networks, parameters, and rules (neuro-evolution);
- Evolutionary unsupervised learning;
- Evolutionary deep learning;
- Data-driven heuristic optimization;
- Representation learning applied to landscape data;
- Learnheuristics and meta-learning;
- Machine learning for automatic algorithm selection and configuration;
- Transfer of approaches between machine learning and optimization;
- Analysis of heuristic optimization using machine learning methods.

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).