

Special Issue

Optimization-Aware Explainable Machine Learning: Algorithms, Metrics and Applications

Message from the Guest Editor

This Special Issue focuses on **optimization-aware explainable machine learning**, an approach that treats explanation as a first-class objective in the model development process. We invite contributions that advance the theory, methodology, and applications of optimization-aware explainable machine learning. Topics of interest include, but are not limited to, the following:

- Algorithms that integrate interpretability constraints or objectives directly into training and model selection;
- Stability-focused interpretability metrics and methods for ensuring explanation robustness under data variation;
- Multi-objective optimization strategies balancing accuracy, fairness, and interpretability;
- Evaluation frameworks that embed stakeholder needs into the optimization process;
- Applications in domains where explanation is critical for adoption, such as agriculture, climate science, healthcare, finance, and engineering;
- Comparative analyses and benchmarks of optimization-driven explainability methods.

We also welcome interdisciplinary submissions that connect optimization-aware explainable machine learning with trustworthy AI, human-centered AI, and responsible deployment practices.

Guest Editor

Dr. Tamayo-Vera Dania

School of Mathematical and Computational Sciences, University of Prince Edward Island, Charlottetown, PE C1A 4P3, Canada

Deadline for manuscript submissions

30 June 2026



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/251265

Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)





Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)



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.

Editor-in-Chief

Prof. Dr. Francisco Chiclana

School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

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).