Special Issue

Applications in Symmetry/Asymmetry and Machine Learning

Message from the Guest Editors

We are pleased to invite you to contribute to this Special Issue, 'Applications in Symmetry/Asymmetry and Machine Learning'. Machine learning and artificial intelligence have become central to solving complex problems across science, industry, and society. Symmetry, in this context, refers to balanced and recurring structures in data and models, such as repetitive patterns in time series or uniform distributions, while asymmetry appears in challenges such as class imbalance, unequal feature importance, or anomaly detection. This Special Issue aims to highlight cutting-edge research that integrates concepts of symmetry and asymmetry into the development of machine learning models, optimization algorithms, and decision-making systems. Of particular interest are methods that achieve balance between exploration and exploitation in optimization, uncover hidden asymmetries in predictive modeling, and design explainable AI techniques that make algorithmic decisions more transparent. Potential topics include, but are not limited to, supervised and unsupervised learning, time series analysis and prediction, metaheuristic and evolutionary optimization, deep learning...

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Deadline for manuscript submissions

30 April 2026

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/254459

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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