

Special Issue

Machine Learning in Astrophysical and Space Physics Applications

Message from the Guest Editors

Machine learning is a rapidly growing field, yielding breakthroughs in many areas, including astrophysics and space physics. By allowing computers to learn from data and make predictions or decisions without being explicitly programmed, machine learning provides powerful tools for solving complex and large-scale scientific problems. In astrophysics and space physics, these tools are increasingly used in classifying astronomical images, detecting exoplanets, modeling stellar activity, predicting space weather, and improving the accuracy and speed of data processing. Machine learning algorithms are also valuable for accelerating numerical modeling and solving inverse problems often computationally intensive in traditional approaches. With the increasing availability of large observational and modeling datasets, integrating machine learning methods opens new opportunities for discovery and innovation in understanding processes in the Universe. This Special Issue welcomes research papers that develop, adapt, and apply machine learning to astrophysics and space physics, especially those improving predictive performance or providing new insights into physical phenomena.

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Deadline for manuscript submissions

20 February 2026



Applied Sciences

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.5



mdpi.com/si/251156

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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