

Special Issue

Symmetric Machine Learning Method Enhanced by Evolutionary Computation and Its Applications in Big Data Analytics

Message from the Guest Editors

Machine learning (ML) has been widely applied for big data processing and analytics, where various optimization problems (about model symmetry/asymmetry, model architecture and hyperparameters, data clustering, and data prediction) are frequently encountered. Evolutionary computation (EC) is commonly used in these scenarios where classical numerical methods fail to find good enough solutions. Evolutionary approaches can be used in all the parts of ML: preprocessing (e.g., feature selection and resampling), learning (e.g., parameter setting and network topology), and postprocessing (e.g., decision tree/support vectors pruning and ensemble learning). It is of great interest to investigate the combination of EC and ML in solving large-scale big data analytic problems. The interdisciplinary research of this topic focuses on the progress of machine learning, evolutionary algorithms and their applications for big data, as well as emerging intelligent applications and models in topics of interest, including, but not limited to, industrial control, job-shop scheduling, expert systems, pattern recognition, and computer vision.

Guest Editors

Prof. Dr. Lianbo Ma

Dr. Shi Cheng

Prof. Dr. Shangce Gao

Dr. Yu Guo

Deadline for manuscript submissions

closed (31 March 2024)



Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.3



mdpi.com/si/98653

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

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





Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.3



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



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

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),
C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1
(General Mathematics)