Special Issue

Applications Based on Symmetry and Asymmetry in Deep Learning and Artificial Intelligence Methods

Message from the Guest Editors

This Special Issue explores the fundamental role of symmetry and asymmetry principles in deep learning and artificial intelligence, with a special focus on 3D point cloud processing and computer vision applications. We investigate how symmetrical and asymmetrical patterns influence neural network architectures and learning algorithms, particularly in processing unordered point clouds and visual data. Key areas include symmetry-aware point cloud analysis, geometric deep learning, symmetry detection in 3D shapes, and invariant feature learning in computer vision tasks. This collection bridges theoretical symmetry concepts with practical implementations, advancing both algorithmic designs and real-world applications.

Guest Editors

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Deadline for manuscript submissions

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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.

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