Special Issue

Studies of Symmetry and Asymmetry in Big Data

Message from the Guest Editor

This Special Issue explores structural and statistical patterns in large-scale datasets, with emphasis on medical imaging, artificial intelligence, and healthcare analytics. Symmetry and asymmetry play vital roles in deep learning models by influencing feature extraction, model interpretability, and data imbalance—factors critical for disease classification and clinical decision making, including cancer detection. We welcome theoretical, computational, and application-focused contributions that investigate how recognizing and leveraging symmetry or asymmetry can improve diagnostic accuracy, robustness, and generalizability in AI systems applied to real-world biomedical and healthcare challenges.

Guest Editor

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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.

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