Special Issue

Statistical Machine Learning with High-Dimensional Data and Image Analysis: Second Edition

Message from the Guest Editor

Statistical machine learning methods have been widely used for the analysis of high-dimensional structured data and images. The applications of statistical machine learning to high-dimensional data often face difficulties such as non-modularity and instability, which limit their effectiveness in real-world scenarios. Emerging technologies, particularly deep neural networks, have provided new solutions for large-scale datasets. However, the interpretability of these networks is still not as good as that of traditional statistical machine learning algorithms. Moreover, the exploration of information entropy in deep learning is still in its early stages. For example, recent research has proposed new methods to analyze deep neural networks via information plane theory, but estimating mutual information in highdimensional hidden layers remains challenging. This Special Issue aims to be a forum for presenting new techniques of statistical machine learning for highdimensional data. We particularly welcome contributions on the analysis and interpretation of real-world data or images based on machine learning, deep learning, or large vision-language models.

Guest Editor

Dr. Lei Wang Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055, China

Deadline for manuscript submissions

30 November 2025



an Open Access Journal by MDPI

Impact Factor 2.0 CiteScore 5.2 Indexed in PubMed



mdpi.com/si/232114

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

mdpi.com/journal/

entropy





an Open Access Journal by MDPI

Impact Factor 2.0 CiteScore 5.2 Indexed in PubMed



entropy



About the Journal

Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

Editor-in-Chief

Prof. Dr. Kevin H. Knuth

Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

Author Benefits

Open Access:

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

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, PubMed, PMC, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Physics, Multidisciplinary) / CiteScore - Q1 (Mathematical Physics)