Special Issue

Harnessing Low-Dimensional Structures in Machine Learning and Signal Processing

Message from the Guest Editors

The exponential growth in data generation has revealed the following fundamental insight: While modern datasets may exist in extremely high-dimensional spaces, they often possess underlying low-dimensional structures that can be identified and leveraged for improved analysis. This paradigm shift has driven remarkable progress, enabling breakthrough results in compressed sensing, matrix completion, image reconstruction, and scalable AI systems through the principled integration of structural assumptions with sophisticated optimization techniques. This special issue showcases cutting-edge research advancing the understanding and application of low-dimensional structures across machine learning and signal processing. We seek theoretical advances, novel algorithms, and compelling applications. Topics include: sample complexity analysis, information-theoretic bounds, and nonconvex optimization theory; algorithmic advances in sparse, low-rank, and tensor-based methods; and applications spanning computational imaging, recommender systems, wireless communications, compressed deep learning models, and other data-intensive domains where low-dimensional structures enable efficient solutions.

Guest Editors

Dr. Jiaxi Ying

Department of Mathematics, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, China

Prof. Dr. Jun Chen

Department of Electrical & Computer Engineering, McMaster University, 1280 Main Street West, Hamilton, ON L8S 4K1, Canada

Deadline for manuscript submissions

31 May 2026

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/si/251656

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

mdpi.com/journal/entropy

Entropy

an Open Access Journal by MDPI

Impact Factor 2.0
CiteScore 5.2
Indexed in PubMed

mdpi.com/journal/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)

MDPI