

Special Issue

Advances in Federated and Collaborative Learning with Applications for Generative AI

Message from the Guest Editors

This Special Issue invites submissions that explore entropy, perplexity, and information-theoretic approaches to enhancing the computational efficiency of Generative AI, particularly in federated and collaborative learning. Topics of interest include, but are not limited to, the following:

- Entropy and perplexity analysis of large language models, including Kolmogorov complexity bounds and information-theoretic optimization;
- Federated and collaborative learning with entropy-aware compression and privacy-preserving techniques;
- Representation learning in decentralized environment;
- Parallel and distributed computing strategies for large-scale AI models;
- Perplexity-constrained compression and query optimization in in-context learning;
- Prompt compression and entropy-minimized retrieval techniques;
- Data removal methods for machine unlearning, focusing on entropic efficiency;
- Scalable techniques to detect AI-generated data using statistical and information-theoretic tools;
- Applications in AI-assisted software, autonomous systems, and edge computing.

Guest Editors

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Deadline for manuscript submissions

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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

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