Special Issue

Information Theory in Artificial Intelligence

Message from the Guest Editor

This Special Issue will explore the multifaceted roles of information–theoretic methods in modern AI, spanning areas such as statistical learning, deep neural networks, probabilistic modeling, and decision-making under uncertainty. In particular, we seek contributions that advance the theoretical foundations of AI through the lens of Information Theory, as well as empirical studies that demonstrate the effectiveness of such approaches in real-world scenarios. Applications of interest include, but are not limited to, anomaly detection, predictive maintenance, representation learning, and explainable AI—areas where managing uncertainty and extracting meaningful information from complex data are paramount. By gathering diverse perspectives from both the Artificial Intelligence and Information Theory communities, this Special Issue will foster dialogue and promote novel insights to guide the development of next-generation intelligent systems grounded in principled information–theoretic approaches.

Guest Editor

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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.

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