Special Issue

Information Theory in Emerging Machine Learning Techniques

Message from the Guest Editor

In the past two decades, deep learning, as part of machine learning, has undergone significant development. There are substantial aspects of deep learning that are not common in other areas, like its unique properties of generalization, representation learning, and latent features, its interaction with optimization, generalization and over-parameterization, layer-wise aspects of the representation, stability, and robustness. These provide a rich foundation for the application and use of information theory.
Information theory has been fundamental to modern machine learning and can significantly contribute to the development of deep learning theory. This Special Issue aims to (1) provide information-theoretical insights into new deep learning methods and (2) develop new deep learning mechanisms, or adapt current mechanisms grounded in information theory. Its focus on emerging machine learning techniques indicates a particular interest in cutting-edge deep learning techniques that have not been analyzed previously and have not been examined through simplified architectures.

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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