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Deep Artificial Neural Networks Meet Information Theory

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Message from the Guest Editor

Deep neural networks (DNN) is an extremely growing research field with a proven record of success during the last years in various applications, e.g., computer vision, speech processing, pattern recognition or reinforcement learning. Despite this great success of DNN, the theoretical understanding of DNN is still limited. In recent times, information-theoretic principles have been considered to be useful for a deeper understanding of DNN. The purpose of this Special Issue is to highlight the state-of-the-art of learning in DNN in the context of information theory.

This Special Issue welcomes original research papers concerned with learning DNN based on information-theoretic methods. Review articles describing the current state-of-the-art of DANN in context of Information Theory are highly encouraged. All submissions to this Special Issue must include substantial aspects from DNN and information theory.



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Special Issue



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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.

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