Special Issue

Information-Theoretic Approaches in Deep Learning

Message from the Guest Editor

Deep Learning (DL) has revolutionized machine learning, especially in the last decade. In recent years, we have been observing a stunning evolution in computing technologies. As a benefit of this unprecedented development, we are capable of working with very large Neural Networks (NNs), composed of multiple layers (Deep Neural Networks), in many applications. DL is based on feature learning and data representation. Although many Convolutive Neural Network (CNN) and Recurrent Neural Network (RNN) based algorithms have been proposed, a comprehensive theoretical understanding of DNNs remains to be a major research area. In this Special Issue, we would like to collect papers focusing on both the theory and applications of information-theoretic approaches for Deep Learning. The application areas are diverse and some of them include object tracking/detection, speech recognition, natural language processing, neuroscience, bioinformatics, engineering, finance, astronomy, and Earth and space sciences. Dr. Deniz Gencaga

Deadline for manuscript submissions

closed (30 June 2019)

Entropy

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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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