



## Information Theory-Based Deep Learning Tools for Computer Vision

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### Message from the Guest Editors

Artificial intelligence (AI) is a cross-disciplinary field of research that is generally concerned with developing and investigating systems that operate or act intelligently. In 1948, Claude Shannon, a mathematician and pioneer of AI, proposed the foundations of information theory (IT), and experts from both IT and AI have benefited since then.

Deep learning (DL) is a subset of AI, which is concerned with algorithms inspired by the structure and function of the brain. DL is creating many new applications in broad areas of science, particularly in the domain of computer vision (CV). These novel applications of DL to CV have increased in recent years. Specifically, in conventional applications of DL, a chosen algorithm learns the data and identifies hidden patterns during training. Then, the retrieved information is used for many purposes, e.g., classification.

Therefore, the goal of this Special Issue is to broadly engage the communities of IT, DL, and CV together in order to provide a forum for the researchers and practitioners related to this rapidly developed field, and share their novel and original research regarding the topic addressed by this Special Issue.



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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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