Entropy-Based Uncertainty Management Methods in Deep Learning

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Message from the Guest Editors

The goal of this Special Issue is to discuss recent development in uncertainty management in the field of deep learning applications such as intelligent systems, automatic control, natural language processing, computer vision and speech understanding, analytics and data mining, smart planning, robotics, information fusion, etc.

Contributions might address a mixture of deep learning technologies, taking into account uncertainty representation and reasoning. Some of the potential topics include, but not limited to, the following:

- Evidential deep neural networks (DNN);
- Rough DNN;
- DNN and fuzzy logic;
- Possibilistic DNN;
- Neural network-based uncertainty quantification;
- Uncertainty in big data analytics;
- Uncertainty in information fusion;
- Deep reinforcement learning;
- Bayesian deep learning;
- Classification by deep learning;
- Deep belief networks;
- Fuzzy convolutional neural network;
- Uncertainty-aware deep classification;
- Rough sets and neural network;
- Graph neural networks ;
- Deep possibilistic clustering;
- Deep neural dynamic Bayesian networks.

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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