



Advances in Artificial Intelligence

Special Issue on

**Deep Learning Methods and Applications**

# CALL FOR PAPERS

Deep Learning Methods and Applications provide an overview of general deep learning methodology and its applications to a variety of signal and information processing tasks. It is a new area of Machine Learning research, which has been introduced with the objective of moving Machine Learning closer to one of its original goals: Artificial Intelligence. Deep Learning is about learning multiple levels of representation and abstraction that help to make sense of data such as images, sound, and text.

The literature on deep learning is vast, mostly coming from the machine learning community. The signal processing community embraced deep learning only within the past four years or so (starting around end of 2009) and the momentum is growing fast ever since.

Potential topics include, but are not limited to:

- ▶ Pattern Recognition and Machine Learning
- ▶ Deep learning representation (unsupervised, semisupervised, and supervised)
- ▶ Optimization for representation learning
- ▶ Deep learning for big data
- ▶ Sparse modeling and hierarchical models
- ▶ Deep learning algorithms for 2D and 3D visual data representation and analysis
- ▶ Distributed computing, GPUs, and new hardware for deep learning
- ▶ Applications in vision, audio, speech, and natural language processing, robotics, and neuroscience with deep architectures
- ▶ Virtual and augmented reality application
- ▶ Big Data application
- ▶ Neuromorphic platforms

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