JSPS SPECIAL ISSUE: *MACHINE LEARNING IMPLEMENTATIONS*

Background

During the recent years, breakthroughs in machine learning have led to human level accuracy in a number of problem domains, including image recognition, image segmentation, audio and speech recognition. The disruption was largely due to discoveries in **deep learning**, with structures such as convnets or recurrent nets, and today their use is ubiquitous and several competing platforms exist for easy training and testing of deep networks.

Most modern machine learning research is devoted to improving the **accuracy** of prediction. However, less attention is paid to **deployment** of machine learning systems. Most deployments are in the cloud, with abundant resources, and free choice of computation platform. However, in the advent of intelligent physical devices---such as intelligent robots or self-driven cars---the resources are more limited, and the latency may be strictly bounded.

To address these questions, the focus of this special issue is on machine learning **implementations**; including both **system level** topics and other research questions related to general **deployment** of machine learning algorithms. Of particular interest are real-world deployment strategies for successful production use.

Topics

This special issue of Journal of Signal Processing Systems (JSPS) seeks innovative new solutions for machine learning with strong implementation and deployment aspect. The list of possible topics includes:

1. Fast implementations of machine learning and deep learning algorithms,
2. Computationally lightweight structures,
3. Implementations on dedicated platforms, *e.g.,* on embedded devices,
4. Real time implementations of machine learning,
5. System level implementations, considering full pipeline from raw data until the decision layer,
6. Concurrency, including interplay of machine learning components competing for shared resources,
7. Low-latency implementations,
8. Novel and innovative applications with strong emphasis on implementation.

Submission

Authors should prepare their manuscript according to the Instructions for Authors available at the JSPS website: http://www.springer.com/engineering/signals/journal/11265. Upon submissions at the Editorial Manager submission system, select the article type "JSPS Special Issue on Machine Learning Implementations". All the papers will be peer-reviewed following the JSPS reviewing procedures.

Important Dates

- Paper submission due: September 15, 2017
- First notification: October 27, 2017
- Revision: November 20, 2017
- Final decision: December 22, 2017
- Expected publication date: February 2018

Guest Editors

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