

Call for Papers:

IEEE Journal of Selected Topics in Signal Processing (J-STSP)

Special Issue on Data Science: Machine Learning for Audio Signal Processing

Audio signal processing is currently undergoing a paradigm change, where data-driven machine learning is replacing hand-crafted feature design. This has led some to ask whether audio signal processing is still useful in the "era of machine learning." There are many challenges, new and old, including the interpretation of learned models in high dimensional spaces, problems associated with data-poor domains, adversarial examples, high computational requirements, and research driven by companies using large in-house datasets that is ultimately not reproducible.

This special issue aims to promote progress, systematization, understanding, and convergence of applying machine learning in the area of audio signal processing. Specifically, we are interested in work that demonstrates novel applications of machine learning techniques in the area of sound and music signal processing, as well as methodological considerations of merging machine learning with audio signal processing. We seek contributions in, but not limited to, the following topics:

- audio information retrieval using machine learning;
- audio synthesis with given contextual or musical constraints using machine learning;
- audio source separation using machine learning;
- audio transformations (e.g., sound morphing, style transfer) using machine learning;
- unsupervised learning, online learning, one-shot learning, reinforcement learning, and incremental learning for audio;
- applications/optimization of generative adversarial networks for audio;
- cognitively inspired machine learning models of sound cognition;
- mathematical foundations of machine learning for audio signal processing.

This call addresses audio signal processing for speech, acoustic scenes, and music.

Prospective authors should follow the instructions given on the IEEE JSTSP webpages:

<https://signalprocessingsociety.org/publications-resources/ieee-journal-selected-topics-signal-processing> and submit their manuscript with the web submission system at: <https://mc.manuscriptcentral.com/jstsp-ieee>

Important Dates:

Submission deadline: October 1, 2018

1st review completed: December 1, 2018

Revised manuscript due: February 1, 2019

2nd review completed: March 1, 2019

Final Manuscript due: April 1, 2019

Publication: May, 2019

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