IEEE ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL SOCIETY

IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control

CALL FOR PAPERS

Special Issue on: Deep learning in medical ultrasound – from image formation to image analysis

(Submission deadline: September 30, 2019)

Over the past years, deep learning has established itself as a powerful tool across a broad spectrum of domains. While deep neural networks initially found nurture in the computer vision community, they have quickly spread over medical imaging applications, ranging from image analysis and interpretation to - more recently - image formation and reconstruction. Deep learning is now rapidly gaining attention also in the ultrasound community, with many groups around the world exploring a wealth of opportunities to improve ultrasound imaging in several key aspects, ranging from beamforming and compressive sampling to speckle suppression, segmentation, photoacoustics, and super-resolution imaging.

To share these concepts and the associated methods with the UFFC community, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control* will organize a special issue on "Deep learning in medical ultrasound - from image formation to image analysis". This special issue will embrace the adoption, integration, and optimization of deep learning in ultrasound imaging, providing the reader with an overview of this emerging technology and its unique applications and challenges in the domain of ultrasonics.

Contributions are sought from authors who are engaged in theoretical studies and developments on deep learning in medical ultrasound, as well as related applications, including, but not limited to,

- Beamforming,
- Compressed sensing,
- Super-resolution, such as localization microscopy and microvascular imaging,
- Doppler,
- Photoacoustics,
- Elasticity imaging,
- Image restoration and enhancement,
- Image segmentation and classification,
- Diagnostics.

All contributions should be submitted to IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control via Manuscript Central at https://mc.manuscriptcentral.com/tuffc-ieee. When submitting, authors should select the Manuscript Type as "Special Issue Papers" or "Special Issue Review", and enter the name of this special issue in the field "If the manuscript type is 'Special Issue', please enter the name of the Special Issue". It is important that your manuscript is distinguished from a regular submission. In the first paragraph of "Comments to Editor-in-Chief", you should state that the submission is intended for the Special Issue on Deep learning in medical ultrasound. Instructions for preparation and submission of your manuscript may be found on the IEEE Transactions on UFFC website: https://ieee-uffc.org/documents/guidelines-for-author.

All manuscripts are subject to the normal peer-review process. The submission deadline is September 30, 2019 with an expected publication date in 2020. The guest editors will be:

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