Special Issue

PET Imaging with Deep Learning

Message from the Guest Editors

Positron Emission Tomography (PET) is an imaging modality widely used in oncology, neurology, and cardiology, with the ability to observe molecular-level activities inside the tissue through the injection of specific radioactive tracers. PET image resolution and signal to noise ratio (SNR) are still low due to various physical degradation factors. Improving PET image quality is essential, especially in applications such as small lesion detection, brain imaging and longitudinal studies.

Deep-Learning methods based on convolutional neural networks, have already shown tremendous potential for data processing, image reconstruction, and image processing and analysis (denoising, classification, segmentation, synthesis). Some of these methods have already been successfully applied to improve PET imaging.

Potential topics include, but are not limited to, improved PET signal detection, data denoising, data corrections (attenuation, scatter, motion, normalization, ...), image reconstruction, image processing and quantification, and multimodality imaging.

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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