

Deep Learning for Medical Imaging

Speaker: Ge Wang, RPI

Abstract: Artificial intelligence (AI), especially deep learning, has become a mainstream scientific approach, and enabled major advances in medical imaging, including not only image analysis (from images to features) but also image reconstruction (from data/features to images). In this presentation, a general background is provided on deep learning-based tomographic imaging. Then, some new results are described in the three aspects: (1) supervised, (2) semi-supervised, and (3) self-supervised deep imaging. Finally, challenging issues are discussed, along with future opportunities.

Biography: Ge Wang is Clark & Crossan Chair Professor and Director of Biomedical Imaging Center, RPI, USA. He focuses on medical imaging and AI. He published the first spiral cone-beam CT algorithm in the early 1990s. There are ~200 million CT scans yearly, with a majority in the spiral cone-beam mode. He published the first perspective on deep imaging in 2016 and many follow-up papers. He is Fellow of IEEE, SPIE, AAPM, OSA, AIMBE, AAAS, and NAI. His recent honors including IEEE R1 Outstanding Teaching Award, EMBS Career Achievement Award, SPIE Meinel Technology Award, and Sigma Xi Chubb Award for Innovation.