AI For Medical Imaging Informatics: Where Have We Missed Explainability?

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Abstract

When we consider AI for healthcare, infectious disease outbreak is no exception. The talk will begin with machine learning models that help in not only predicting but also detecting abnormalities due to infectious diseases such as Pneumonia, TB, and Covid-19. I will open my talk with infectious disease prediction models and unexploited data, where we will learn that predictive analytical tools are close to garbage-in garbage-out (at least for Covid19). I will then cover multimodal learning and representation based on both shallow learning (handcrafted features) as well as deep learning (deep features) that typically apply on medical imaging tools. Like in computer vision, I will open an obvious question, how big data is big in addition to common techniques: data augmentation and transfer learning. With all these facts, as most of models are limited to education and training, I will end up my talk with the statement "ML innovation should not be limited to building models." What we need is #ExplainablableAI in #ActiveLearning framework.