DATA-DRIVEN STRATEGIES FOR RELIABLE IMAGING: OPTIMIZED TRAINING SETS AND UNSUPERVISED MOTION CORRECTION

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Abstract: Deep neural networks trained on example images perform excellent for medical and scientific imaging, but can be sensitive to distribution shifts and motion perturbations. In this talk, I'll discuss how imaging reliability and performance, in particular performance under distribution shifts can be improved through dataset design. Second, I'll discuss effective un-supervised deep learning based method for 3D rigid motion estimation.