Center for Soft Matter and Biological Physics

Discussion Meeting

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Sparsely Encoding Convolutional Neural Networks II

Friday, February 9, 2018

4:00 pm—5:00 pm

304 Robeson Hall

Neural networks are a family of models that range from the biologically inspired recurrent networks that serve as models of the brain, to the feed-forward, deep-learning networks that have been at the forefront of machine learning in recent years. This talk will continue to introduce a specific type of neural network that while biologically inspired, has been developed for the purpose of machine learning and computer science: the sparsely encoding convolutional neural network. This talk will explain how these systems are used for imaged denoising, and how finite size scaling was observed in these networks as they denoised images across many different values of sparsity. This finite size scaling implies that these systems undergo a continuous as sparsity is varied.