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Assisting sampling of physical systems with generative models

Marylou Gabrié

CMAP, École Polytechnique

Speaker e-mail : marylou.gabrie@polytechnique.edu

Deep generative models parametrize very flexible families of distributions able to fit complicated datasets of images or text. These models provide independent samples from complex high-distributions at negligible costs. On the other hand, sampling exactly a target distribution, such the Boltzmann distribution of a physical system, is typically challenging: either because of dimensionality, multi-modality, ill-conditioning or a combination of the previous. In this talk, I will discuss opportunities and challenges in enhancing traditional inference and sampling algorithms with learning.