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Energy-based diffusion models for complex actions

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Energy-based diffusion models can learn the unnormalised probability distribution from data. We apply this idea to a well-studied example in the context of lattice field theories with a sign problem, for which training data is generated using complex Langevin dynamics. We demonstrate that the learned distribution can subsequently be used to generate configurations using importance sampling. This final (i.e., after training) generative step therefore bypasses both complex Langevin and diffusion model dynamics.

Special requests

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