MID-POINT INTERNSHIP

what we have done and possible directions

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continuous framework

what we have done

- we have written some insights that connect score matching and minimum probability flow
- we have developed and coded langevin matching, based on these ideas
- we have compared score matching with langevin matching on gaussians

continuous framework

possible directions

- try more general models, not gaussians. the strenght of our models is that we do not need to compute the normalization constants, so that they work even with complex models (typically bayesian)
- add some regularization to induce sparsity
- think of other ways to induce sparsity
- using stochastic interpolants to generate samples, without learning the parameters (in particular, without assuming any model). the idea is that by sampling fast enough, we can calculate any observable with monte carlo.
- test on NESS

discrete framework

what we have done

- we have explored minimum probability flow, pseudolikelihood and interaction screening
- we have coded them and we can compare them
- we have coded mcmc matching, motivated by langevin matching, but it does not work

discrete framework

possible directions

- think of a different way to induce sparsity from the regularization used in stokhov et al.
- use stochastic interpolants to learn how to sample
- use discrete diffusion models to learn how to sample
- test on NESS