Reproducing the paper:
Stochastic Gradient Hamiltonian Monte Carlo by Tianqi Chen, Emily B. Fox and Carlos Guestrin

Sam Adam-Day, Alexander Goodall, Theo Lewy and Fanqi Xu

Abstract

We reproduce the experiments contained in **sghmc** [**sghmc**] by **sghmc**.

FiXme: Give more details in abstract

List of Corrections

1   Introduction

- Overview of paper and its context.
- Which experiments replicated, and rationale for this choice.
- Target questions of paper.
- Experimental methodology.
- Implementation details.
    - Integration with Pyro.
    - Which parts are new, and which are from publicly available code?
    - Details about how key aspects were implemented.
- Link to repository.
- New aspects?

2   Background

- Hamiltonian Monte Carlo.
- Naïve Stochastic Gradient HMC.
- SGHMC using friction.

3   Implementation Details

- Describe choice made and how we implemented the algorithms

4   Experiments

- Describe experiments and compare with results in the paper.

4.1   Simulated examples

4.2   Bayesian Neural Networks for Classification

5   Extensions

5.1   NUTS

6   Conclusion

- Analysis and discussion of findings.
- Suggest what could have been done with more time.