

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 ‘Stochastic Gradient Hamiltonian Monte Carlo’ [CFG14] by Chen, Fox and Guestrin.

Fixme: Give  
more details in  
abstract

**List of Corrections**

[Give more details in abstract](#) . . . . . 1

**1 Background**

**2 Experiments**

**2.1 Simulated examples**

**2.2 Bayesian Neural Networks for Classification**

**3 Extensions**

**3.1 NUTS**

**References**

[CFG14] Tianqi Chen, Emily Fox and Carlos Guestrin. ‘Stochastic Gradient Hamiltonian Monte Carlo’. In: *Proceedings of the 31st International Conference on Machine Learning*. Ed. by Eric P. Xing and Tony Jebara. Vol. 32. Proceedings of Machine Learning Research 2. Beijing, China: PMLR, June 2014, pp. 1683–1691. URL: <https://proceedings.mlr.press/v32/cheni14.html>.