Likelihood-free Inference and Optimization using Stochastic Gradient Approximations

Abstract

1 INTRODUCTION

2 GRADIENTS FROM FORWARD SIMULATIONS

2.1 Robbin's Monro: SGD

2.2 Spall's method: SASP

3 LANGEVIN DYNAMICS

4 STOCHASTIC-GRADIENT LD

5 SGLD-ABC

5.1 Statistical Tests for Gradients

6 EXPERIMENTS

6.1 Logistic Regression with Stochastic Gradients

6.2 Likelihood-free Inference of Blowfly Dynamics

6.3 Other Useful ABC problem

7 DISCUSSION

8 CONCLUSION

References