AdaGeo: Adaptive Geometric Learning for Optimization and Sampling

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Advances in Approximate Bayesian Inference
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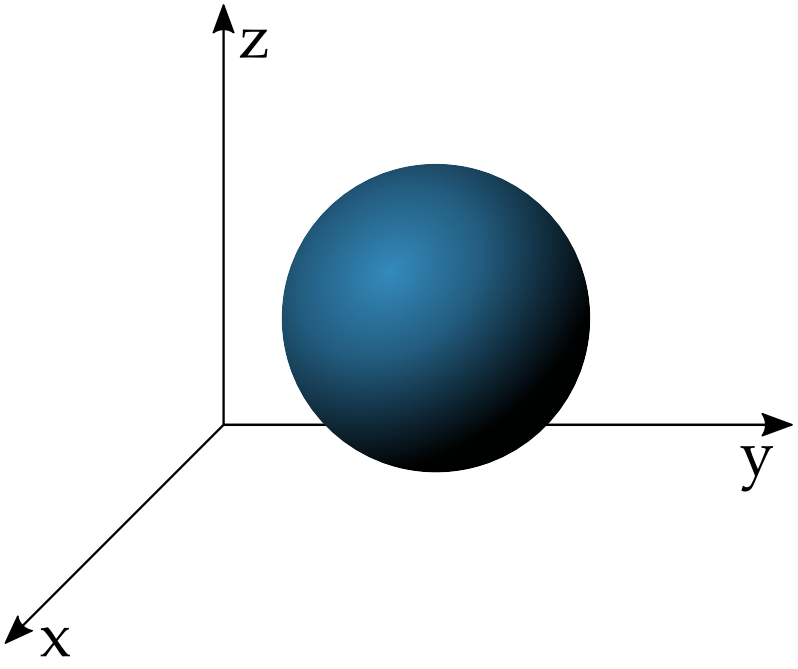
The Manifold Idea

High-dimensional sampling and optimization can be hindered by issues such as non-convexities, correlations, different scales etc.



After *t* steps, we propose to assume the samples or optimization steps to be on a manifold and identify the latter with **Gaussian Process Latent Variable Models**

We then incorporate the newly acquired information in the algorithm and resume the computation.

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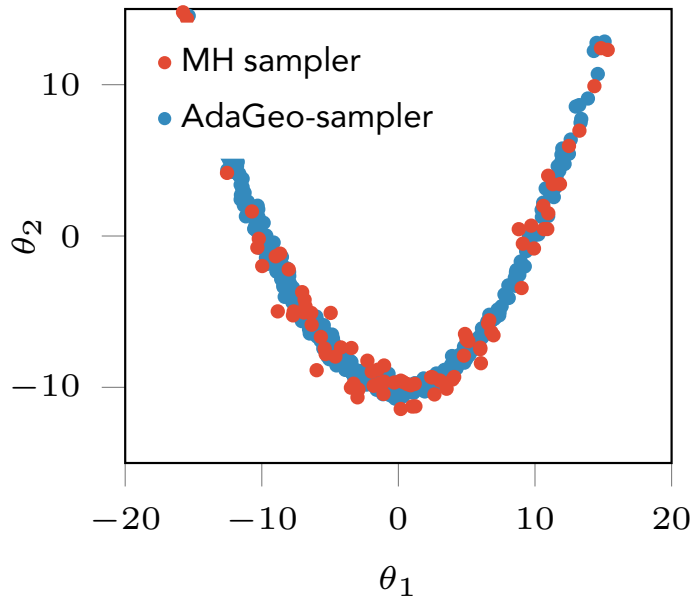
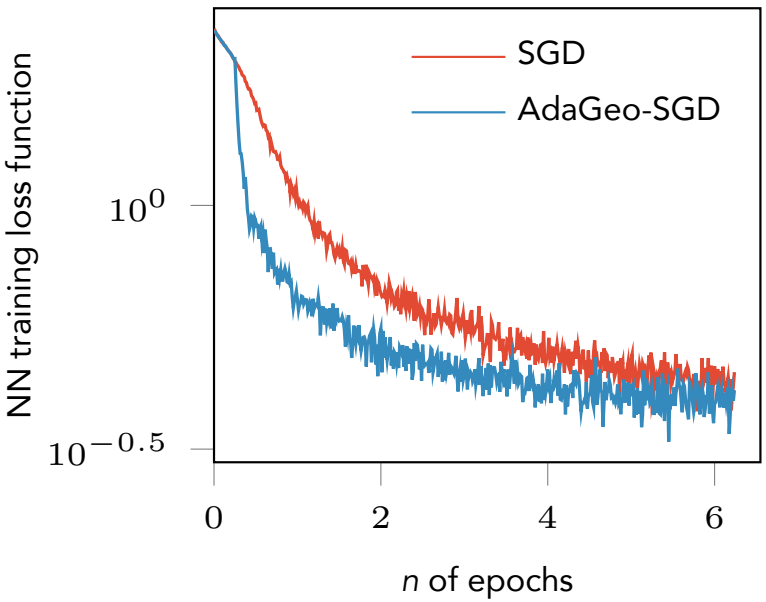
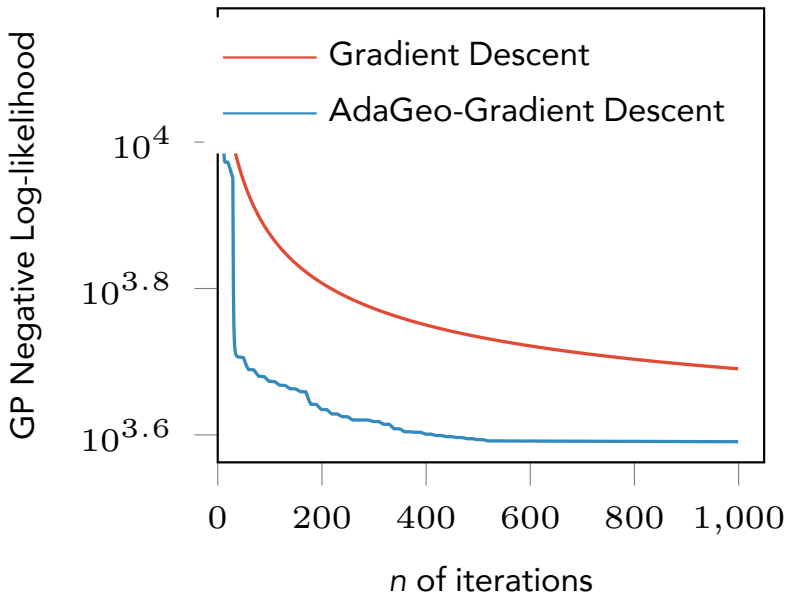
Results







Thank you

Paper #1