

STOCHASTIC OPTIMIZATION IN MACHINE LEARNING

CASE STUDIES IN NONLINEAR OPTIMIZATION

F. Bauer S. Chambon R. Halbig S. Heidekrüger J. Heuke

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Technische Universität München

Awesome Motivational Slide.

Yeah!

1. Introduction
2. A Stochastic Quasi Newton Method
3. Proximal Splitting Method
4. Logistic Regression: An Example
5. Conclusion

INTRODUCTION

What are we doing? Why?

A STOCHASTIC QUASI NEWTON METHOD

What is it?[?] Why? Main ideas, high-level pseudo code overview?
short bfgs repetition? Extreme Cases (L-BFGS, SGD)

Explain the Dataset quickly. Why is this good for SQN testing? Why is it challenging? (file size etc)

Pretty pictures about the behaviour of SQN on HIGGS and comparison with traditional SGD

PROXIMAL SPLITTING METHOD

OUTLINE OF SECTION BY JACOB AND FIN

- hallo
- du muschi
- [?]

LOGISTIC REGRESSION: AN EXAMPLE

Explain what we want to do, and explain the dataset, and why using both SQN and Prox makes sense

Nice table with SQN, SGD (no reg, L2), (Lasso,) Prox (L1) showing Obj. value in found optimum, CPU time, Iterations, F1 score of prediction model

Use different reg. parameters?? Stop after fixed time? after fixed iters? after insign. improvements

CONCLUSION



QUESTIONS?

