HUMBERTO STEIN SHIROMOTO

BAYESIAN DATA ANALYSIS

The public is more familiar with bad design than good design. It is, in effect, conditioned to prefer bad design, because that is what it lives with. The new becomes threatening, the old reassuring.

Paul Rand, *Design, Form, and Chaos*

La perfection est atteinte, non pas lorsquíl n'y a plus rien à ajouter, mais lorsquíl n'y a plus rien à retirer.

Antoine de Saint-Exupéry

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Contents

Note use [**Liberzon2012**] as main reference

Part I

Convex Optimisation

1 | Linear Programming

2 | Convex programming

Part II

Infinite Dimensional

3 | Bayesian Optimization

- Eric Brochu, Vlad M. Cora, Nando de Freitas: A Tutorial on Bayesian Optimization of Expensive Cost Functions, with Application to Active User Modeling and Hierarchical Reinforcement Learning. CoRR abs/1012.2599 (2010). arXiv:1012.2599. This is a good paper on the subject
- Jonas Mockus (2013). Bayesian approach to global optimization: theory and applications. Kluwer Academic

A | Bibliography

[**CalafioreGhaoui2014**] is a self-contained book. It presents the concepts of linear algebra used in the book. The book starts by with linear optimisation moving to cone and semidefinite optimisation. It also contains an introduction to solving algorithms and applications to machine learning, finance, control and engineering;

[**Clarke:2013**] is a more theoretical book. It contains elements of functional analysis, nonsmooth analysis and optimisation (generalised gradients). The generality of the optimisation formulation is achieved with the use of calculus of variations;

[**Liberzon2012**] is a comprehensive book on the optimisation. It starts the book by introducing finite and infinite-dimensional optimisation problems. The next subject is the calculus of variations, and optimal control.

[**VandenbergheBoyd1996**]