



THE UNIVERSITY OF
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Department of Statistics

MASTER'S THESIS PRESENTATION

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On the Relation of Bayesian Inference and PAC-Bayes Inspired
Learning
Procedures

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ABSTRACT

Given that the name of the PAC-Bayes learning theoretic framework is derived in part from that of Bayes Theorem, it is very natural to ask to what degree procedures inspired by PAC-Bayes bounds are related to purest Bayesian inference procedures. This paper discusses the extent to which prediction algorithms derived from the minimization of PAC-Bayes generalization bounds can be expected to behave similarly to Bayesian posterior predictive distributions, including a result showing that discriminative Bayesian-inference procedures are in almost all cases suboptimal from the PAC-Bayes point of view.