



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

MASTER'S THESIS PRESENTATION

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Bayesian Prior Informativeness Assessment for Multivariate  
Parameters

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Jones 304, 5747 S. Ellis Avenue

ABSTRACT

Specifying prior is one of the major challenges for Bayesian method implementation. In this paper, we explored methods, that when adopting the Bayesian approach, of determining the information quality that our prior distribution provided compared with the information from the likelihood function. Our work adopts the idea of utilizing prior sample size as a measurement to assess the prior information contribution to posterior inference. There is previous study which works with univariate parameters. We extended the scope to multivariate variables based on the established work. After introducing the assessment procedure, we discussed conditions which hold invariance under parameterization both in the univariate space and the multivariate space. Later, we assessed the fitness of our method for multi-dimensional parameters with a simulation study.

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