

Bayesian Logistic Regression

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Abstract

In this thesis we introduce Bayesian statistics and a Bayesian non-hierarchical model for logistic regression. We also discuss how this model can be generalized into a hierarchical regression model. For both models we employ the Metropolis-Hastings algorithm, which is a Markov Chain Monte Carlo method that can be used to train Bayesian models. We then apply this theory to a real data set consisting of professional tennis matches and evaluate the result. Special emphasis is given to a discussions about model building and model testing in a Bayesian setting.

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