

Note Template

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Abstract

The general purpose of Bayesian Statistics is to find/estimate the joint distribution $\mathbf{P}(\mathbf{y}_1, \dots, \mathbf{y}_n, \theta_1, \dots, \theta_m)$, from which we explore applications with the help of posterior and predictive distributions, and of course, the Bayes' Rule. It includes parametric, from one-parameter distributions like Bernoulli and Poisson to multiple-parameter like Binomial, and unparametric methods. This serves as an introductory course to the world of Bayesian.

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Chapter 1

Introduction and Notation

The core difference between a Bayesian and a frequentist is the belief on whether the latent or the parameter θ is a random variable or a constant. One of the major impacts is that iid assumptions changes to conditionally independent instead of mutually independent due to the connection between θ and Y_i through the joint distribution $\mathbf{P}(\mathbf{Y}_i, \theta_j)$

Appendix