Bayesian Methods

J Banfelder & A Clerkin

9/30/2020

Flipping a Coin with my Honest Sister

\[ P(M_{0.50}|D_{13}) = \frac{P(\text{Observed Heads}|\text{bias} = x)P(\text{bias} = x)}{P(\text{Observed Heads})} \]

Number of bins: 101

Total Flips: 200

Heads: 130

Prior Probability Density: Most Coins are Roughly Fair
Likelihood vs Coin Bias

Posterior Probability Density

Marginal Likelihood (Probability of Selected Heads) = 0.00404946144470368