

Bayesian Methods

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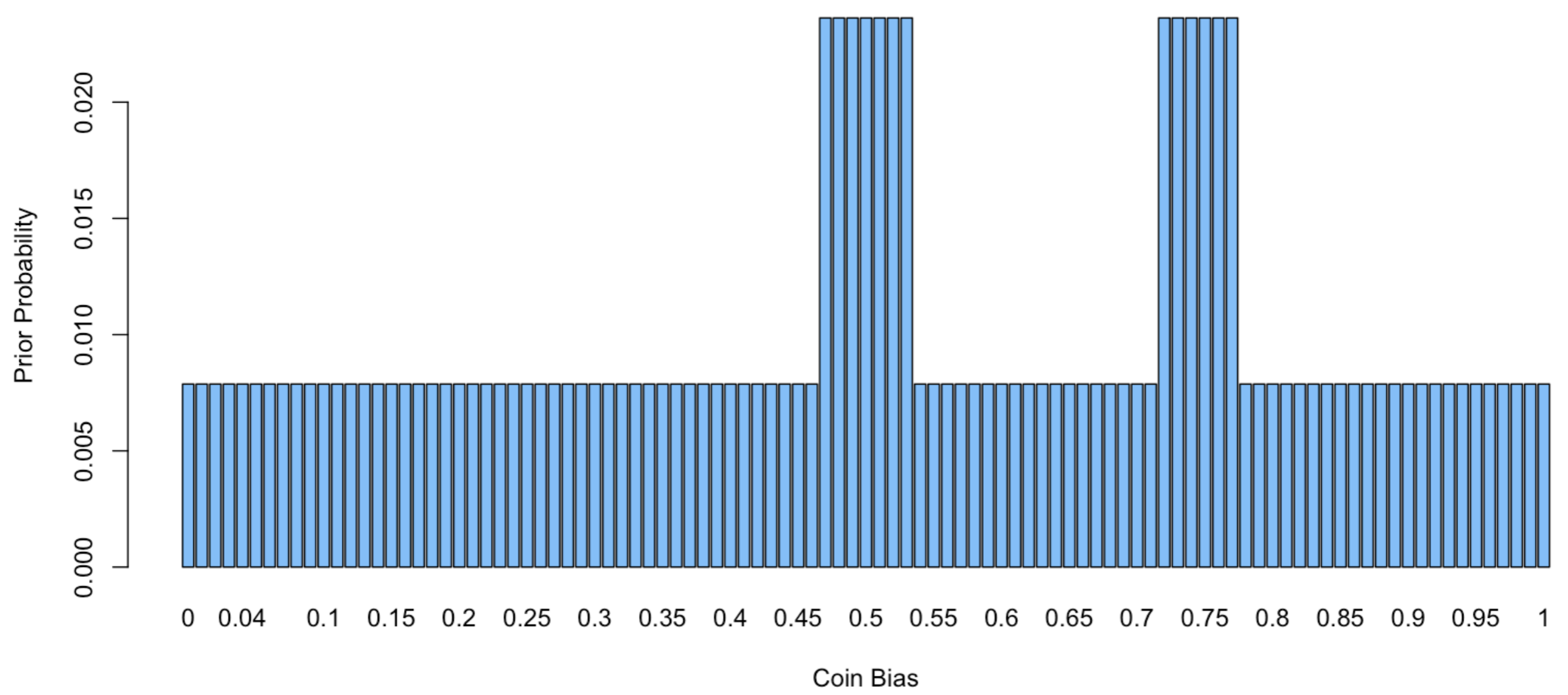
9/30/2020

Flipping a Coin with my Trickster Brother

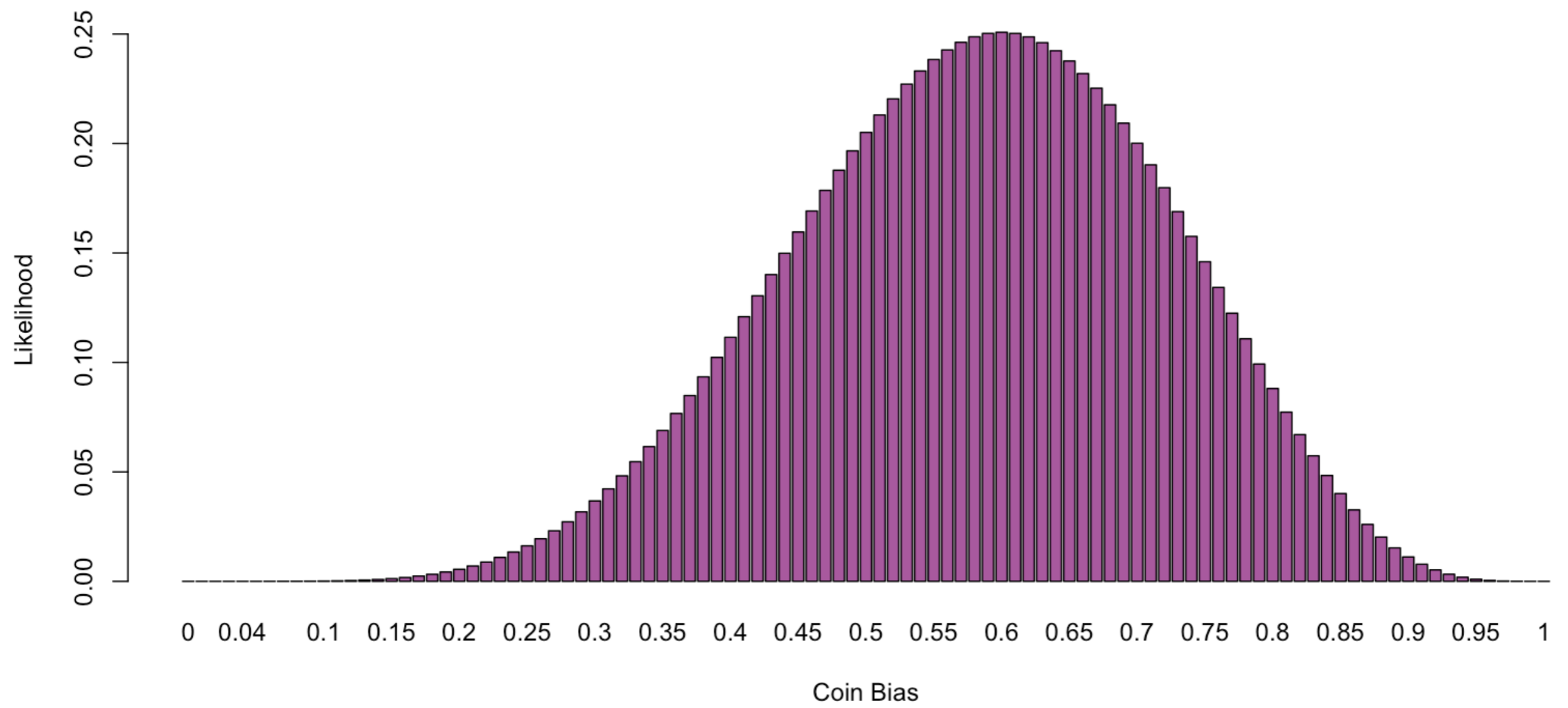
$$P(M_{0.50}|D_{13}) = \frac{P(\text{Observed Heads} | \text{bias} = x)P(\text{bias} = x)}{P(\text{Observed Heads})}$$

Number of bins: Total Flips: Heads:

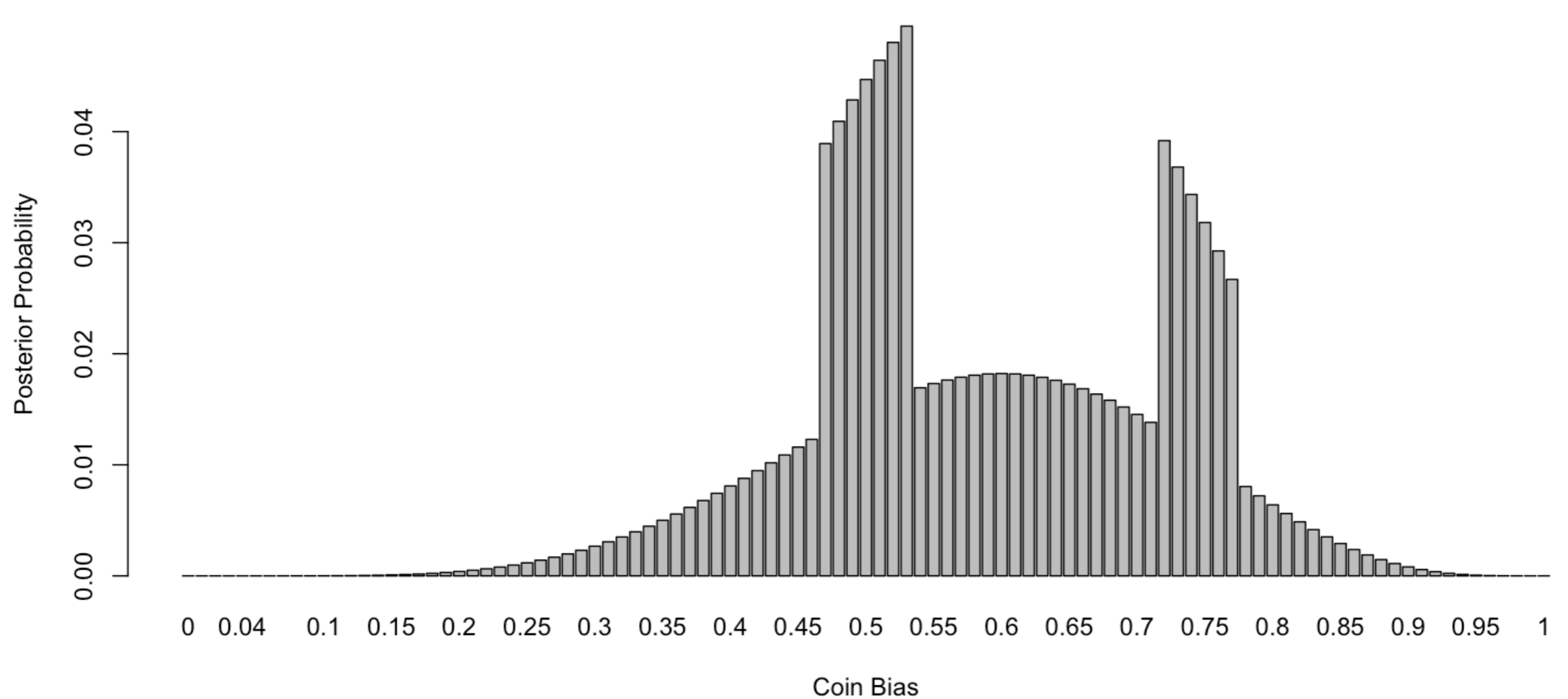
Prior Probability Density: Most Coins are Roughly Fair



Likelihood vs Coin Bias



Posterior Probability Density



Marginal Likelihood (Probability of Selected Heads) = 0.108396241440113