

Conjugate Priors

STAT 343: Mathematical Statistics

Discrete Distributions

Bernoulli(p)

Conjugate prior: $\text{Beta}(\alpha, \beta)$

Binomial(n, p)

Conjugate prior: $\text{Beta}(\alpha, \beta)$

Negative Binomial(r, p) with known success number r

Conjugate prior: $\text{Beta}(\alpha, \beta)$

Poisson(λ)

Conjugate prior: $\text{Gamma}(\alpha, \beta)$

Geometric(p)

Conjugate prior: $\text{Beta}(\alpha, \beta)$