

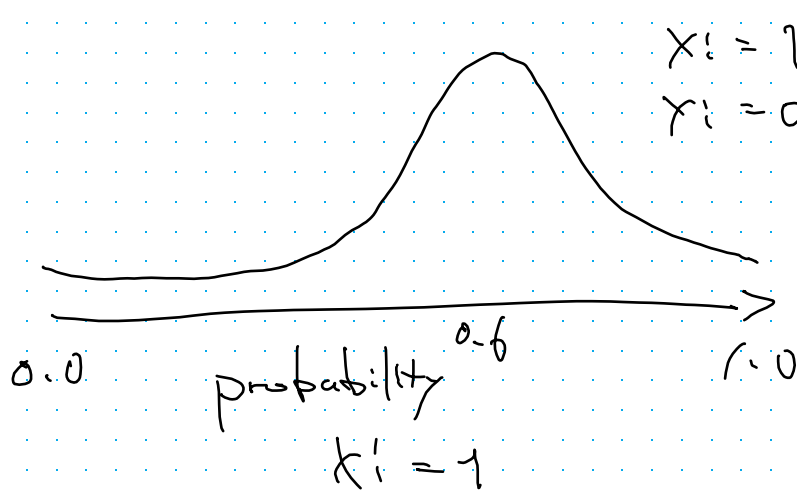
random variable X_i with sample space $\{0, 1\}$

$$X_i | \theta \sim \text{Bernoulli}(\theta)$$

PMF

$$f(x) = \begin{cases} 1-p & x=0 \\ p & x=1 \end{cases}$$

$\theta \sim \text{beta}(\alpha, \beta)$ as a prior



この p は
確率の beta
分布である

1. What would you as a true Bayesian?

試行回数を N とし、表が α 回出る

裏が β 回出る

or 階層的に考える

Assuming prior of α as P_α and
prior of β as P_β

$$\alpha \sim P_\alpha(\theta_\alpha)$$

$\beta \sim P_\beta(\theta_\beta)$ Then using data sample
 $\{x_1, \dots, x_n\}$

For estimating α and β as distribution

By using α, β distribution as
prior

It can be considered fully bayes