

$$P_{\pi}(\theta = 0.7 | Y_{data}) = \frac{P_{\pi}(Y_{data} | \theta = 0.7) P_{\pi}(\theta = 0.7)}{P_{\pi}(Y_{data})}$$

$$P_{\pi}(\theta = 0.3 | Y_{data}) = \frac{P_{\pi}(Y_{data} | \theta = 0.3) P_{\pi}(\theta = 0.3)}{P_{\pi}(Y_{data})}$$

$$P_{\pi}(Y_{data} | \theta = 0.7) = \text{BINOM}(2; 7, 0.7) = 0.025$$

$$P_{\pi}(Y_{data} | \theta = 0.3) = \text{BINOM}(2; 7, 0.3) = 0.318$$

$$\frac{0.025}{0.025 + 0.318} = 0.073 = P_{\pi}(\theta = 0.7 | Y_{data})$$

$$P_{\pi}(\theta = 0.3 | Y_{data}) = 1 - 0.073 = 0.927$$