Beta Distribution - Introduction

↳ prob distribution of probs

Weather (w) → good / bad

$W \sim \text{Bernoulli}(\theta)$

θ ... prob of observing good weather

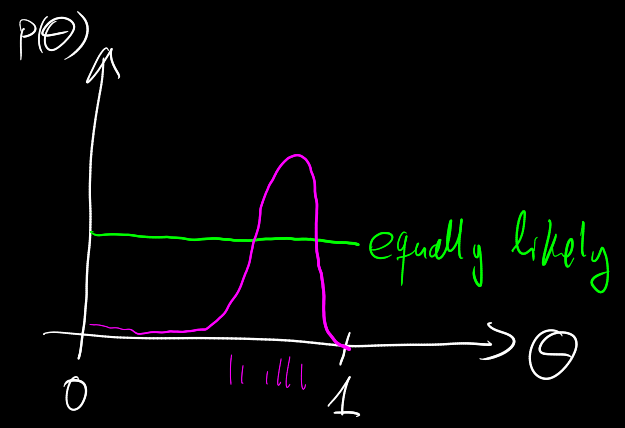
(e.g. $\theta = 0.8$)

One year $\theta = 0.7$

another year $\theta = 0.9$

$p(\theta = 0.8)$ ... prob of observing good weather with 80% chance

$\theta \in [0, 1]$



↳ Beta Dist

$$\theta \sim \text{Beta}(\theta; \alpha, \beta) \propto \theta^{1-\alpha} \cdot (1-\theta)^{1-\beta}$$

! normalize

α, β ... Beta parameter

$$\text{Beta}(\theta; \alpha, \beta) = \frac{1}{B(\alpha, \beta)} \theta^{1-\alpha} (1-\theta)^{1-\beta}$$

Beta Dist — Beta Function