Machine Vision

October 5, 2018

1 Lecture 1

Bernoulli Distribution

$$Pr(x) = \lambda^x(1-\lambda)^{1-x}, \lambda \in= [0,1], x \in \{0,1\}$$

$$Pr(x) = Bern_x[\lambda]$$

Beta Distribution

$$Pr(\lambda) = \frac{\Gamma[\alpha+\beta]}{\Gamma[\alpha]\Gamma[\beta]}\lambda^{\alpha-1}(1-\lambda)^{\beta-1}, \alpha, \beta > 0$$

$$\Gamma(z) = \int_0^\infty t^{z-1}c^{-t}dt = (z-1)!$$

$$E[\lambda] = \frac{\alpha}{\alpha+\beta}$$

α, β decide the coin fact λ