Figure 1: Discrete Distributions

Distribution	Parameters	Probabiltiy Mass Function (pmf)	Mean	Variance
Binomial	n, p	$p(r) = \binom{n}{r} p^r (1-p)^{n-r}$ $r = 0, 1, \ldots, n$	np	$np(1-p)$
Geometric	p	$p(r) = p(1-p)^{r-1}$ $r = 1, 2, \ldots$	$\frac{1}{p}$	$\frac{1-p}{p^2}$
Poisson	λ	$p(r) = \frac{\lambda^r e^{-\lambda}}{r!}$ $r = 1, 2, \ldots$	λ	λ

Figure 2: Continuous Distributions

Distribution	Parameters	Probability Density Function (pdf)	Mean	Variance
Uniform	a, b	$f(y) = \frac{1}{b-a}$ $a \leq y \leq b$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$
Exponential	λ	$f(y) = \lambda e^{-\lambda y}$ $0 < y < \infty$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$
Normal	μ, σ	$f(y) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(y-\mu)^2}{2\sigma^2}}$	μ	σ^2
Standard Normal	none	$f(y) = \frac{1}{\sqrt{2\pi}} e^{-\frac{y^2}{2}}$	0	1