Distribuciones discretas

Distribución		función de probabilidad		media	varianza
Uniforme discreta	U(n)	$f(k) = \frac{1}{n}$	$k = 1, \ldots, n$	$\frac{n+1}{2}$	$\frac{n^2-1}{12}$
Bernoulli	b(p)	$f(0) = 1-p, \quad f(1) = p$		p	$p(1-p)$
Binomial	B(n,p)	$f(k) = \binom{n}{k} p^k (1-p)^{n-k}$,	$k = 0, \ldots, n$	np	$np(1-p)$
Geométrica	g(p)	$f(k) = (1-p)^{k-1} p$,	$k = 1, \ldots, \infty$	$\frac{1}{p}$	$\frac{1-p}{p^2}$
Binomial negativa	BN(n,p)	$f(k) = \binom{n+k-1}{k} p^n q^k$,	$k = 1, \ldots, \infty$	$\frac{n(1-p)}{p}$	$\frac{n(1-p)}{p^2}$
Hipergeométrica	H(N,n,p)	$f(k) = \frac{\binom{Np}{k}\binom{N(1-p)}{n-k}}{\binom{N}{n}}$,	$k = \text{máx}\{0, n-N(1-p)\}, \ldots, \text{mín}\{n, Np\}$	np	$np(1-p)\,\frac{N-n}{N-1}$
Poisson	P(λ)	$f(k) = e^{-\lambda}\,\frac{\lambda^k}{k!}$	$k = 0, \ldots, \infty$	λ	λ

Distribuciones continuas

Distribución		función de densidad		media	varianza
Uniforme continua	U(a,b)	$f(x) = \frac{1}{b-a}$	$x \in (a,b)$	$\frac{a+b}{2}$	$\frac{(b-a)^2}{12}$
Exponencial	E(λ)	$f(x) = \lambda e^{-\lambda x}$	$x > 0$	$1/\lambda$	$1/\lambda^2$
Gamma	G(p,a)	$f(x) = \frac{a^p}{\Gamma(p)}\, x^{p-1}\, e^{-ax}$	$x > 0$	p/a	p/a^2
Beta	B(p,q)	$f(x) = \frac{1}{\beta(p,q)}\, x^{p-1}\,(1-x)^{q-1}$	$x \in (0,1)$	$\frac{p}{p+q}$	$\frac{pq}{(p+q)^2\,(p+q+1)}$
Normal	N(μ,σ)	$f(x) = \frac{1}{\sigma\sqrt{2\pi}}\,\exp\left\{-\frac{1}{2}\frac{(x-\mu)^2}{\sigma^2}\right\}$	$x \in \mathbb{R}$	μ	σ^2
Weibull	W(α,θ)	$f(x) = \frac{\alpha}{\theta^\alpha}\, x^{\alpha-1}\, \exp\left\{-\left(\frac{x}{\theta}\right)^\alpha\right\}$	$x > 0$	$\theta\,\Gamma(1+\frac{1}{\alpha})$	$\theta^2\left(\Gamma(1+\frac{2}{\alpha}) - \left(\Gamma(1+\frac{1}{\alpha})\right)^2\right)$
Chi-cuadrado	$\chi^2(n)$	$f(x) = \frac{1}{2^{n/2}\,\Gamma(\frac{n}{2})}\, x^{n/2-1}\, e^{-x/2}$	$x > 0$	n	$2n$
T de Student	t(n)	$f(x) = \frac{\Gamma(\frac{n+1}{2})}{\sqrt{n\pi}\,\Gamma(\frac{n}{2})}\left(1+\frac{x^2}{n}\right)^{-\frac{n+1}{2}}$	$x \in \mathbb{R}$	$0 \ (n > 1)$	$\frac{n}{n-2} \ (n > 2)$
F de Fisher-Snedecor	F(n_1,n_2)	$f(x) = \frac{\Gamma(\frac{n_1+n_2}{2})\, n_1^{n_1/2}\, n_2^{n_2/2}}{\Gamma(\frac{n_1}{2})\,\Gamma(\frac{n_2}{2})}\, x^{(n_1/2)-1}\,(n_2+n_1 x)^{-(n_1+n_2)/2}$	$x > 0$	$\frac{n_2}{n_2-2} \ (n_2 > 2)$	$\frac{2n_2^2\,(n_1-n_2-2)}{n_1(n_2-2)^2\,(n_2-4)} \ (n_2 > 4)$