eCornell

TOOL

Statistics Refresher

Name	Description	Equation
Bayes Rule	Bayes' rule is used to describe the probability of an event based on the probability of other conditions.	$P(A\|B) = \frac{P(B\|A)P(A)}{P(B)}$
Chain Rule	The chain rule allows you to calculate the probability of multiple events using conditional probabilities.	$P(A, B, C, D) = P(A)P(B\|A)P(C\|A, B)P(D\|A, B, C)$
Normal Distribution	A random variable that follows a normal distribution has the following probability density function.	$f(x; \mu, \sigma) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$
Binomial Distribution	A random variable that follows a binomial distribution has the following probability mass function.	$P(x = k; p) = \binom{n}{k} p^k (1-p)^{n-k}$