Glossary

1. Coefficient

A coefficient is a number in front of a variable. It is a constant by which a variable is multiplied.

2. Cumulants

The Cumulants of a probability distribution are a set of quantities that provide an alternative to the moments of the distribution.

3. Discrete Uniform Distribution

The discrete uniform distribution is a probability distribution whereby a finite number of equally spaced values are equally likely to be observed; every one of *n* values has equal probability 1/n. Another way of saying "discrete uniform distribution" would be "a known, finite number of equally spaced outcomes equally likely to happen".

4. Distribution

The distribution of a set of numerical data is how their values are distributed over the real numbers. It is completely characterized by the empirical distribution function.

5. Expectation

The expected value of a random variable is the long-term limiting average of its values in independent repeated experiments. The expected value of the random variable X is denoted EX or E(X). For a discrete random variable the expected value is the weighted average of its possible values, where the weight assigned to each possible value is the chance that the random variable takes that value.

6. Geometric Distribution

The geometric distribution describes the number of trials up to and including the first success, in independent trials with the same probability of success. The geometric distribution depends only on the single parameter p, the probability of success in each trial.

7. Intersection

The intersection of two or more sets is the set of elements that all the sets have in common; the elements contained in every one of the sets. The intersection of the events A and B is written "A \cap B".

8. Kurtosis

Kurtosis is derived from Greek word kurtos which means bulging. Kurtosis is any measure of the "peakedness" of the probability distribution of a real-valued random variable.

9. Markov Property

The term Markov property refers to the memoryless property of a stochastic process. A stochastic process has the Markov property if the conditional probability distribution of future states of the process depends only upon the present state, not on the sequence of events that preceded it. A process with this property is called a Markov process.

10. Mean

Mean is the sum of a list of numbers, divided by the number of numbers.

11. Moment

The kth moment of a list is the average value of the elements raised to the kth power; that is, if the list consists of the N elements x1, x2, ..., xN, the kth moment of the list is, (x1k + x2k + xNk)/N.

12. Moment Generating Function (mgf)

The moment-generating function of a random variable is an alternative specification of its probability distribution. Thus, it provides the basis of an alternative route to analytical results compared with working directly with probability density functions or cumulative distribution functions.

13. Phi

In probability theory Phi is the probability density function of the normal distribution and is the characteristic function of a random variable X. Phi is denoted as Φ .

14. Probability

The probability of an event is a number between zero and 100%. The meaning (interpretation) of probability is the subject of theories of probability, which differ in their interpretations.

15. Skewness

Skewness is a measure of the asymmetry of the probability distribution of a real-valued random variable. The skewness value can be positive or negative, or even undefined.