

## Glossary

### 1. **Bias**

Bias is an inclination to present or hold a partial perspective at the expense of alternatives. Anything biased generally is one-sided, and therefore lacks a neutral point of view.

### 2. **Central Limit Theorem**

The central limit theorem (CLT) states that in a given certain conditions, the mean of a sufficiently large number of independent random variables, each with finite mean and variance, will be approximately normally distributed.

### 3. **Estimator**

An estimator is a rule for calculating an estimate of a given quantity based on observed data. Thus the rule and its results are distinguished.

### 4. **Interval Estimator**

In Interval Estimators the result would be a range of possible values (or vectors or functions).

### 5. **Mean Squared Error**

The mean squared error (MSE) of an estimator is one of many ways to measure the difference between values implied by an estimator and the true values of the quantity being estimated.

### 6. **Parameters**

Parameter is a quantity or statistical measure that a given population is used as the value of a variable in some general distribution or frequency function to make it descriptive of that population. Parameter is a function of the population observations and characteristic of the population.

### 7. **Precision**

The precision of a measurement system is the degree to which repeated measurements under unchanged conditions show the same results.

### 8. **Point Estimator**

The Point Estimator yield single-valued results, which include the possibility of single vector-valued results and results that can be expressed as a single function.

### 9. **Population**

A population is all the organisms that belong to the same group or species and live in the same geographical area.

**10. Robust Statistics**

Robust statistics provides an alternative approach to standard statistical methods, such as those for estimating location, scale and regression parameters.

**11. Sampling**

Sampling is the process of converting a signal (for example, a function of continuous time or space) into a numeric sequence (a function of discrete time or space).

**12. Sampling Distribution**

Sampling distribution is the probability distribution of a given statistic based on a random sample. Sampling distributions are important in statistics because they provide a major simplification on the route to statistical inference.

**13. Standard Error**

The standard error is the standard deviation of the sampling distribution of a statistic. This may also be used to refer to an estimate of the standard deviation, derived from a particular sample used to compute the estimate.

**14. Statistical Inference**

Statistical Inference makes use of information from a sample to draw conclusions (inferences) about the population from which the sample was taken.

**15. Unbiased Estimator**

An estimator or decision rule with zero bias is called unbiased. Otherwise the estimator is said to be biased.