Glossary

1. Acquit

Free (someone) from a criminal charge by a verdict of not guilty.

2. Alternative Hypothesis

The alternative hypothesis, H1, is a statement of what a statistical hypothesis test is set up to establish. For example, in a clinical trial of a new drug, the alternative hypothesis might be that the new drug has a different effect, on average, compared to that of the current drug.

3. Bayes' Theorem

Bayes' Theorem is a result that allows new information to be used to update the conditional probability of an event.

4. Convict

Declare (someone) to be guilty of a criminal offense by the verdict of a jury or the decision of a judge in a court of law.

5. Data Analysis

Analysis of data is a process of inspecting, cleaning, transforming, and modelling data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making.

6. False Negative Error

A false negative error is where a test result indicates that a condition failed, while it actually was successful.

7. False Positive Error

A false positive error is where a test result indicates that a condition turned out successful, while it actually was a failure.

8. Jury

A body of people (typically twelve in number) sworn to give a verdict in a legal case on the basis of evidence submitted to them in court.

9. Null Hypothesis

The null hypothesis, H0, represents a theory that has been put forward, either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved. For example, in a clinical trial of a new drug, the null hypothesis might be that the new drug is no better, on average, than the current drug.

10. Sample mean

The sample mean is an estimator available for estimating the population mean. It is a measure of location, commonly called the average, often symbolised \overline{x} .

11. Sampling Distribution

The sampling distribution describes probabilities associated with a statistic when a random sample is drawn from a population. The sampling distribution is the probability distribution or probability density function of the statistic.

12. Six Sigma

Six Sigma is a process improvement set of tools and strategies, originally developed by Motorola in 1986.

13. Statistical Hypothesis

A statistical hypothesis test is a method of making decisions using data, whether from a controlled experiment or an observational study (not controlled). In statistics, a result is called statistically significant if it is unlikely to have occurred by chance alone, according to a pre-determined threshold probability, the significance level.

14. Type I Error

In a hypothesis test, a type I error occurs when the null hypothesis is rejected when it is in fact true; that is, H0 is wrongly rejected.

15. Type II Error

In a hypothesis test, a type II error occurs when the null hypothesis H0, is not rejected when it is in fact false.