

Confidence Intervals

Mathematics

Constructing an interval estimate, and stating what it really claims.

A confidence interval for a population mean.

1

Compute the estimate

The sample mean is the centre of the interval.

2

Find the standard error

$s/\sqrt{n}$, using the sample standard deviation when σ is unknown.

3

Choose the critical value

Use z for known σ ; use t with $n - 1$ degrees of freedom otherwise.

4

Build the interval

Estimate $\pm$ critical value $\times$ standard error.

5

State it honestly

Report the interval, the level, and the assumptions it rests on.

95% describes the procedure, not this interval: 95% of such intervals cover the true parameter. Educational reference.