# Topics

1 Type 1 and Type 2 error

2 One tailed and 2 tailed test

3 Confidence Interval

4 Z-test, T- test, chi- square test

# Type 1 and Type 2 error

When we talk about hypothetical test.

1 First Type 1 and Type 2 error

2 Null Hypothesis (H0) – Coin is fair.

3 Alternative Hypothesis (H1) – Coin is not fair.

After performing any kind of experiments, there are two types of decisions that can be made.

First, we will go with respect to the reality check – reality check will be that.

Either Null Hypothesis will be true or Null hypothesis is false.

Null Hypothesis is True or Null Hypothesis is false. Only these two things we will be able to see in reality check.

If I go and check with respect to the decision because this is what I am trying to check test

In decision either get null hypothesis is true or null hypothesis is fails

Decision – Get - null hypothesis is true or null hypothesis is false.

From these two one cans basically derive is that

Possible outcome,

Decision1- Outcome 1 – We reject the Null Hypothesis. When in reality it is false -> Good decision. Yes –

“Null Hypo - Suspected is innocent”- “Rejected Null Hypo” – “Reality – Suspected Guilty “– Decision =Good – Yes. No Error.

Decision2 – Outcome 2 –

“Null Hypo - Suspected is innocent”- “Rejected Null Hypo” – “Reality – Suspected Guilty “– Decision =Bad – Yes. Type 1 Error.

We reject the Null Hypothesis. When in Reality it is true - > In normally people say it Bad decision, but it is not bad decision, this kind of decisions specifically called as Type 1 error – This decision when rejecting Null hypothesis, when in reality it is True.

In real life scenario

Null Hypothesis - The person is innocent. –

Alternative Hypothesis – The person is not innocent.

Null Hypothesis - The person is innocent, in reality it is true that basically means the person is awarded at that sentence even though he did not do any crime . This perfect example.

Outcome 3 – We accept the Null hypothesis. When in reality it is false – Not a good decision. This error called Type 2 Error

In real life scenario

Even though the person has committed crime he is not actuated – this error is basically called as type2 error.

Outcome 4 – We accept the null Hypothesis when in reality it is true. Good decision.

Real world scenario. Confusion matrix.

P N

T TP TN Type 2

F FP

Type 1 FN







