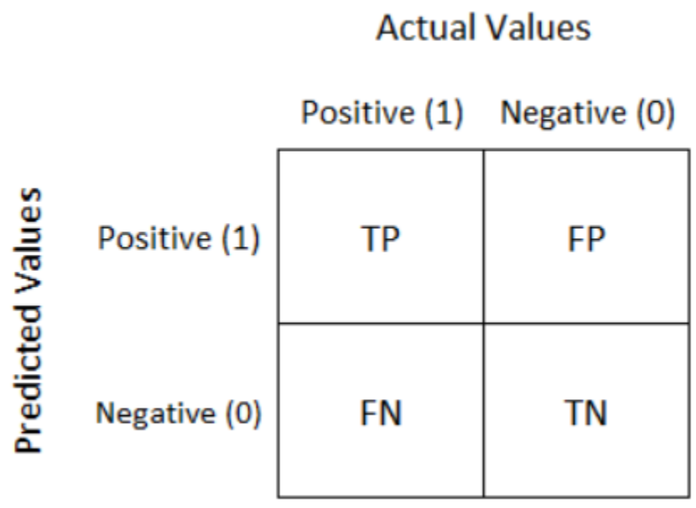
Confusion Matrix

Confusion Matrix is a performance measurement for machine learning classification.



True Positive:

You predicted positive and it's actual is positive.

True Negative:

Interpretation: You predicted negative and it's actual is Negative.

False Positive: (Type 1 Error)

You predicted positive and it's actual is Negative.

False Negative: (Type 2 Error)

Interpretation: You predicted negative and it's actual is positive.

Accuracy

$$Accuracy = \frac{TP + TN}{TP + TN + FP + FN}$$

Overall Performance of the model

Recall

$$Recall = \frac{TP}{TP + FN}$$

Out of all the positive classes, how much we predicted correctly. It should be high as possible.

Precision

$$Precision = \frac{TP}{TP + FP}$$

Out of all the positive classes we have predicted correctly, how many are actually positive.

F-measure

$$F - measure = \frac{2*Recall*Precision}{Recall + Precision}$$

The F-score, also called the F1-score, is a measure of a model's accuracy on a dataset. It is used to evaluate binary classification systems, which classify examples into 'positive' or 'negative'.

The F-score is a way of combining the precision and recall of the model, and it is defined as the harmonic mean of the model's precision and recall.

It is calculated from the precision and recall of the test, where the precision is the number of true positive results divided by the number of all positive results, including those not identified correctly, and the recall is the number of true positive results divided by the number of all samples that should have been identified as positive.

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