

## Statistics:

	Test: hypothesis true	Test: hypothesis false
Reality: true	+	Type I error
Reality: false	Type II error	+

## Machine learning:

TP= true positive, TN=true negative, FP=false positive, FN=false negative

	Prediction of model: positive	Prediction of model: negative
Truth: positive	TP	FN
Truth: negative	FP	TN

Machine learning:

$$\text{True positive rate} = \frac{TP}{TP + FN} \quad \text{true negative rate} = \frac{TN}{TN + FP}$$

$$\text{(total) accuracy} = \frac{TP + TN}{TP + TN + FP + FN} = \frac{TP + TN}{N}$$

$$\text{positive predictive value} = \frac{TP}{TP + FP} \quad \text{negative predictive value} = \frac{TN}{TN + FN}$$

Medical informatics:

sensitivity = true positive rate    specificity = true negative rate

Information retrieval:

precision = positive predictive value =  $\frac{TP}{TP + FP} = p$

recall = true positive rate = sensitivity =  $\frac{TP}{TP + FN} = r$

$$F \text{ measure} = \frac{2pr}{p + r}$$

Error rates in fault diagnostics or biometric verification/identification:

false acceptance rate (FAR) = FP

false rejection rate (FRR) = FN

Note! All the accuracy and error measures defined are also used as percent values.