Evaluation Metrics

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| Metric | Formula | Description |
| Accuracy | $$\frac{TP+TN}{TP+FP+TN+FN}$$ | It is the ratio of the samples that the classification model predicts correctly to all samples. |
| Sensitivity | $$\frac{TP}{TP+FN}$$ | Also known as true positive rate. It gives the ratio of correctly predicted positive samples to all actually positive samples. |
| Specificity | $$\frac{TN}{TN+FP}$$ | It is known as the true negative rate. It gives the ratio of correctly guessed negative samples to all actually negative samples. |
| Precision | $$\frac{TP}{TP +FP}$$ | It is the ratio of correctly predicted positive samples to all positively predicted samples. |
| F-Score | $$\frac{2×Precision×Recall}{Precision+Recall}$$ | It gives the harmonic average of the recall and precision values. |
| MAE | $\frac{1}{N}$ $\sum\_{i=1}^{N}|y\_{i}-ŷ|$ | It gives the mean of the absolute difference between the predicted value and the actual value. . y\_i represents the predicted values and ŷ the actual values. |
| MSE | $\frac{1}{N}$ $\sum\_{i=1}^{N}(y\_{i}-ŷ)^{2}$ | It gives the square of the mean difference between the predicted value and the actual value. |
| RMSE | $$\sqrt{\frac{1}{N} \sum\_{i=1}^{N}(y\_{i}-ŷ)^{2}}$$ | It is used to find the distance between the value predicted by the model for each sample and the actual value. It gives the root value of the mean square error. |
| R2 | 1 - $\frac{\sum\_{}^{}(y\_{i}-ŷ)^{2}}{\sum\_{}^{}(y\_{i}-ỹ)^{2}}$ | It shows how well the predicted values fit the actual values. The value obtained between 0 and 1 is interpreted as a percentage. The higher the value, the better the model. |