**Why not just accuracy?**

Suppose, I give you 100 test instances to test your predictive model. 80 test instances are positive and 20 test instances are negative. Now, I create a hard coded program which marks all instances as positive. I would get the accuracy of the program on my test set as 80%. So wrong and deceptive, isn’t it?

So accuracy can not be only the measure of evaluation that should be used to evaluate the models.

Find below other evaluating measures and how to use them in R:

1. **Precision- Recall-F1 score:**

You can also use the confusionMatrix() provided by caret package. The output includes,between others, Sensitivity (also known as recall) and Pos Pred Value(also known as precision). Then F1 can be easily computed, as stated above, as: F1 <- (2 \* precision \* recall) / (precision + recall)

library(caret)

y <- ... # factor of positive / negative cases

predictions <- ... # factor of predictions

precision <- posPredValue(predictions, y)

recall <- sensitivity(predictions, y)

F1 <- (2 \* precision \* recall) / (precision + recall)

1. **ROC area under curve and Recall precision curve:**

library (ROCR);

y <- ... # logical array of positive / negative cases

predictions <- ... # array of predictions

pred <- prediction(predictions, y);

# Recall-Precision curve

RP.perf <- performance(pred, "prec", "rec");

plot (RP.perf);

# ROC curve

ROC.perf <- performance(pred, "tpr", "fpr");

plot (ROC.perf);

# ROC area under the curve

auc.tmp <- performance(pred,"auc");

auc <- as.numeric(auc.tmp@y.values)