Validation and Performance / Review and notes

Categorical Performance Measures

Here are some additional notes on common performance measures for classification:

TP = True Positive = Correctly predicted Positive class

TN = True Negative = Correctly predicted Negative class

FP = False Positive = Predicted positive, but actually negative

FN = False Negative = Predicted negative, but actually Positive

PPV and precision = TP / (TP + FP) *Positive Predicted Value*

NPV = TN / (TN + FN) *Negative Predicted Value*

sensitivity and recall = TP / (TP + FN)

specificity = TN / (TN + FP)

F Measure F1 = 2TP/(2TP + FP + FN) *An equal balance of precision and recall.*

Lift = [TP/(TP + FP)] / [(TP + FN)/(TP + FP + FN + TN)] *Similar to how much better the model is at predicting TP than a default model.*

Youden J = sensitivity + specificity - 1 *An equal balance of sensitivity and specificity*

psep = PPV + NPV - 1 *An equal balance of PPV and NPV.*

AUC i*s the Area Under the Curve of the ROC -which is created when TP rate is plotted against the FP rate across the thresholds. For a given threshold the TP rate is like the PPV at that threshold and the FP rate is like the NPV at that threshold.*