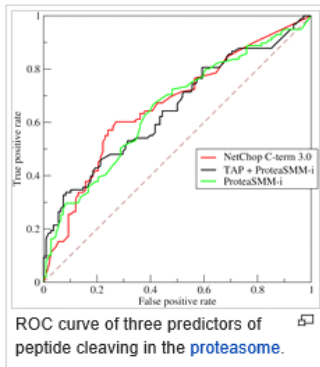# Precision Recall F1score

Wednesday, October 3, 2018   9:41 AM

The F-measure is the harmonic mean of your precision and recall. In most situations, you have a trade-off between precision and recall. If you optimize your classifier to increase one and disfavor the other, the harmonic mean quickly decreases. It is greatest however, when both precision and recall are equa

ROC curve of three predictors of peptide cleaving in the proteasome.

$TPR = TP/TP+FN$

$FPR = FP/FP+TN$

TPR vs FPR

Type 1 error == FP
Type 2 error = FN

$Precision = TP/TP+FP$

$Recall == TP/TP+FN$

F1 score

TPR(Sensitivity) is Recall

TNR(Specificity)

		Predicted class	
		Class 1	Class 0
Actual class	Class 1	10 true positives (TP)	2 false negatives (FN)
	Class 0	3 false positives (FP)	35 true negatives (TN)

false negatives   true negatives

true positives   false positives

selected elements

How many relevant items are selected? e.g. How many sick people are correctly identified as having the condition.

How many negative selected elements are truly negative? e.g. How many healthy peple are identified as not having the condition.

Sensitivity=

Specificity =