ROC curves

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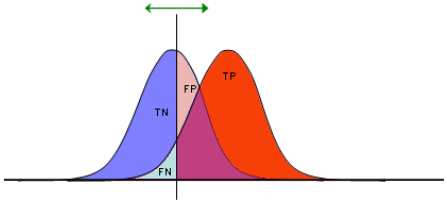
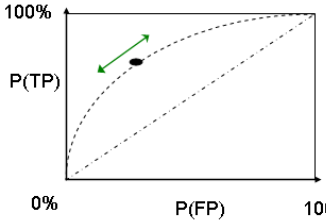
Why a curve?

- In binary classification you are predicting one of two categories
  - Alive/dead
  - Click on ad/don't click
- But your predictions are often quantitative
  - Probability of being alive
  - Prediction on a scale from 1 to 10
- The *cutoff* you choose gives different results

ROC curves



TP	FP
FN	TN
1	1



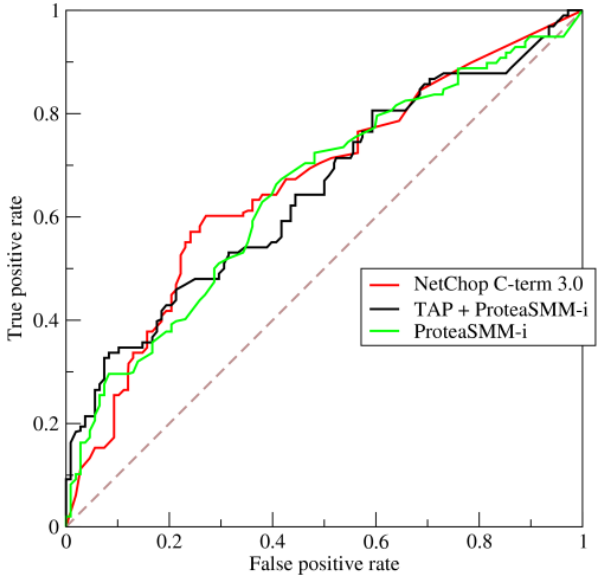
Sensitivity =

= 1 - specificity

Kurve zeigt p(FP) und zugehoerige p(TP) fuer einen bestimmten Cut-Off.

http://en.wikipedia.org/wiki/Receiver_operating_characteristic

An example



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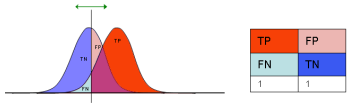
Area under the curve



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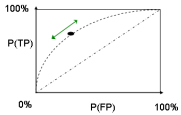

- AUC = 0.5: random guessing
- AUC = 1: perfect classifer
- In general AUC of above 0.8 considered "good"

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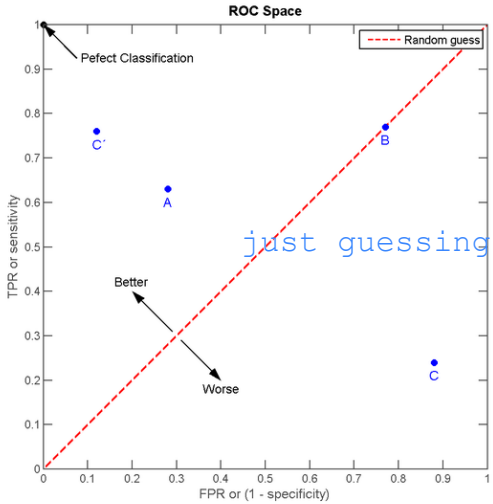
What is good?



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