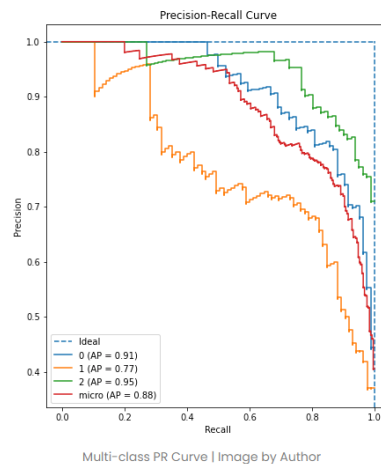
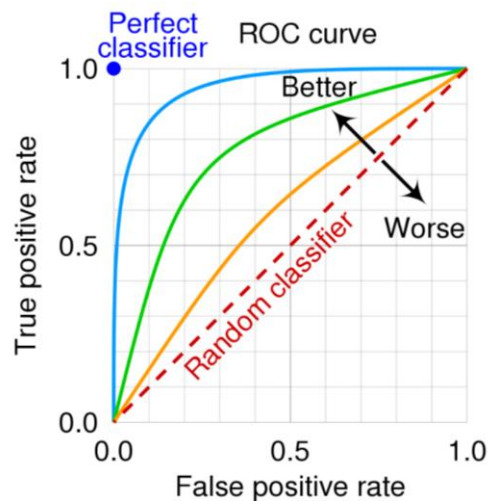


# Assignment 6

## Measuring Performance – ROC and PR Curves



In this assignment you generate ROC and Precision-Recall curves using the MNIST-C Data on a probability density based anomaly detection method of your choice.

Specifically, you will:

- Get the MNIST and MNIST-C dataset.
- Select 3 different types of image corruption (e.g. canny edges) from MNIST-C.
- Create mixed datasets for training and test using the original MNIST and corrupted images at a 100/1 ratio for each corruption type. (so w/ 60,000 original MNIST train images, add in 600 of each corrupted type)
- Create a probability density based anomaly detector (doesn't have to be from scratch).
- Using a range of probability thresholds, create the corresponding ROC and precision-recall curves.

You will turn in both the code and a short report, discussing what you've implemented, how well it worked, what you've learned, etc.

Remember, you must understand what you turn in – you may be asked to explain it to me and/or the class.