

Presentation Guidelines

Greg Rohling

2/5/20

Title Slide

- Make sure your title slide has
 - A clear and appropriate title
 - List of the contributors
 - Date of presentation

Presentation Example

Greg Rohling

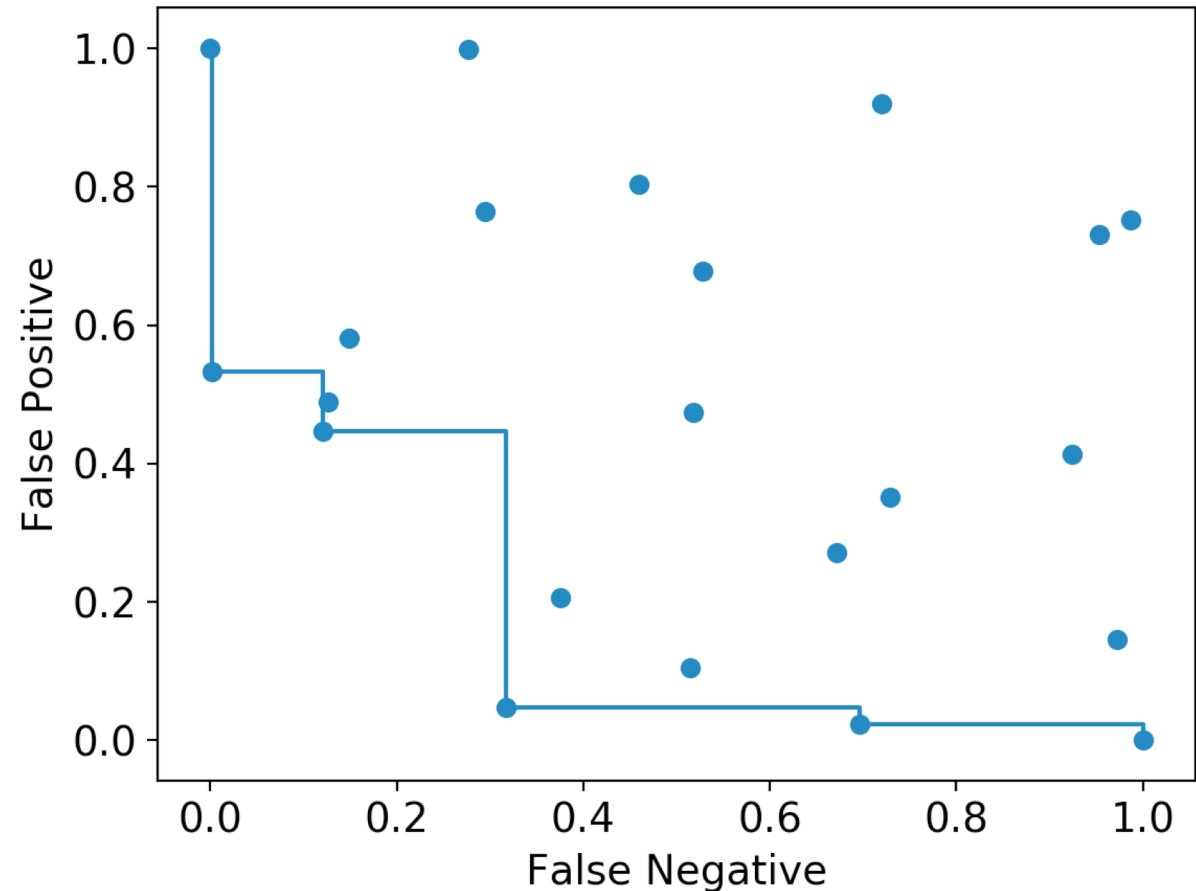
Jason Zutty

2/5/20

Graphs

- Make sure your graphs have:
 - A clear and appropriate title
 - Axis Labels
 - Font size that is readable on a presentation
 - Pareto Front lines go the appropriate direction for minimization versus maximization problems

Example of a Minimization Result
with AUC = 0.177850757144



Example Pareto Optimal Calculation

```
import numpy as np
import matplotlib.pyplot as plt

# Fairly fast for many datapoints, less fast for many dimensions
def find_pareto(data):
    is_Pareto = np.ones(data.shape[0], dtype = bool)
    for i, c in enumerate(data):
        # Keep any point with a lower cost
        if is_Pareto[i]:
            # This is where you would change for minimization versus maximization

            # Minimization
            is_Pareto[is_Pareto] = np.any(data[is_Pareto]<c, axis=1)

            # Maximization
            #is_Pareto[is_Pareto] = np.any(data[is_Pareto]>c, axis=1)

            # And keep self
            is_Pareto[i] = True

    # Downsample from boolean array
    Pareto_data = data[is_Pareto, :]

    # Sort data
    Pareto_out = Pareto_data[np.argsort(Pareto_data[:,0])]

    #return is_Pareto
    return Pareto_out
```

Example Area Under Curve Calculation

```
# Create random list of values
N=20
myData = np.random.random((N,2))

# Include the trivial Pareto points, i.e. always on or off
myData = np.vstack([[0,1],[1,0]], myData))

# Use above routine to find pareto points
myPareto=find_pareto(myData)

# Calculate the Area under the Curve as a Riemann sum
auc = np.sum(np.diff(myPareto[:,0])*myPareto[0:-1,1])

# Create figure
plt.figure()
```

Example Graphing Example

```
# Create figure
plt.figure()

# Make sure font sizes are large enough to read in the presentation
plt.rcParams.update({'font.size': 14})

# Plot all points
plt.scatter(myData[:,0],myData[:,1],)

# Plot Pareto steps. note 'post' for minimization 'pre' for maximization
plt.step(myPareto[:,0], myPareto[:,1], where='post')
#plt.step(myPareto[:,0], myPareto[:,1], where='pre')

# Make sure you include labels
# Minimization
plt.title('Example of a Minimization Result\n with AUC = ' + str(auc))
plt.xlabel('False Negative')
plt.ylabel('False Positive')

# Maximization
#plt.title('Example of a Maximization Result')
#plt.xlabel('True Negative')
#plt.ylabel('True Positive')

plt.show()
```



Page Numbers

- Page numbers are important during a presentation so that the audience is able to record the slide number and then have you go back to that slide during the question and answer period

Technical Presentations

- Technical presentations often needs to stand-alone
 - You may not get to brief the material
 - Having text is acceptable
- This is especially important for this class
 - Unlike a conference presentation, there is not a conference paper that goes with your presentation.

Take-Away

- A take-a-way point is a one sentence summary of the point you want the Audience to take-away from the slide
- It should be conspicuously and consistently placed (i.e. box at the bottom of the page.
- The practice of coming up with the take-away point often helps the author determine if the slide is clear
- This is not a required, but is suggested

A Take Away slides is a good practice to make sure the author and audience understand the importance of the slide.