**ECE 8527: Introduction to  
Machine Learning and Pattern Recognition**

# HW No. 13: MultiLayer Perceptrons

Using data set no. 8, implement a simple multilayer perceptron (MLP) or equivalent neural network and compare performance to all previous algorithms you have evaluated on set no. 8 in a single table. Be sure to include the baseline results for KNN and RNF as the first two entries in the table.

Also, please ROC curves for the /eval data following the process in the previous assignment comparing CD-PCA and MLP.

A baseline MLP implementation can be found here:

<https://isip.piconepress.com/courses/temple/ece_8527/resources/pytorch/tutorial/v2.1/>

<https://medium.com/biaslyai/pytorch-introduction-to-neural-network-feedforward-neural-network-model-e7231cff47cb>

<https://pytorch.org/tutorials/beginner/blitz/neural_networks_tutorial.html>

Feel free to select components of the system, such as the activation function and gradient descent algorithm, so that you optimize performance on the /dev set. Be sure to discuss these optimizations in your report.