CSE 572 Assignment #2: User Dependent and Independent Analysis Project

**** Note: This assignment can be done in either Python or MATLAB***

Phase 1: User dependent analysis [50 points]

Consider the new set of features that you obtained by multiplying the PCA output with your feature set.

Divide that new feature set into two parts for each user: a) part 1: training and b) part 2: test. Ideally keep 60% of the data for each user as training and the rest of 40% as test data. Use three types of machines: a) decision trees (fitctree in MATLAB), b) support vector machines (fitcsvm in MATLAB), and c) neural networks (use the neural network toolbox in MATLAB).

Train each machine with the training data and then use the test data to report accuracy. Use the accuracy metrics of Precision, Recall, F1 score. Report each metric for every user.

Phase 2: User independent analysis [50 points]

For a given gesture, consider 60% of total users and use all their feature points of each user as training. Follow the same labelling strategy as considered in previous user dependent analysis. The rest users are testing. Do the same analysis as in previous case and report the same metrics for each of the rest of the test users.

Please submit your work according to the instructions and deadline stipulated in your course.