**Assignment #5**

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Our team, team11, classifies activities using your trained model. Those activities include lying down, sitting, walking, jogging, running. For the classification, we made the window size and extract trained, compact classifier, and extract the test indices by using SVM, Signal Vector Magnitude, to train the model.[[1]](#footnote-1)

From the classification, when we classify with X, Y, and Z, it is only 76.9037%. So, to make higher accuracy, we add SMV[[2]](#footnote-2) which was formula found from the article. After adding SMV, the accuracy rises to 85.1704%. To be more accurate, we add moving mean, which leads to 99.8815%. We consider we should add moving variance to get higher accuracy. Finally, we get 99.9259% for accuracy of data. The chart below is the graph that shows how much accuracy gets higher.

When we calculate the moving mean, and moving variance, there are variances in accuracy by window sizes. The chart below is moving mean & variance for each window sizes. The range of window sizes are from 6 to 12. Because of the variances, our team consider that the window size should be 10 or 11 for the accuracy.

1. https://github.com/kyungwoh/CS244Fall2017/blob/cs244\_master/Assignment%235/hw5.m [↑](#footnote-ref-1)
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3795931/ [↑](#footnote-ref-2)