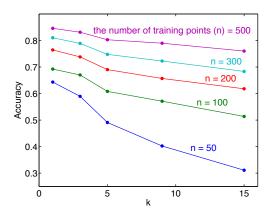
## Homework 1 - KNN 2015 Spring, Machine Learning Choong-Wan Woo January 20, 2015

## Analysis 1.

What is the role of the number of training points to accuracy?

As you can see in **Figure**, as the number of training points (n in Figure) increase, the accuracy increases.



**Figure.** The analysis results. X-axis represents the number of nearest neighbors (k), and y-axis represents accuracy calculated from the confusion matrix. Different lines show tests with different numbers of training points.

## Analysis 2.

What is the role of k to accuracy?

As **Figure** demonstrate, the k increases, the accuracy decreases.

## Analysis 3. \_

What numbers get confused with each other most easily?

From my testing space (i.e., k = [1,3,5,9,15], and n = [50,100,200,300,500]), **7 and 9** were the pair that yielded the largest number of errors.