**Your goal will be to turn in one page with the following table filled out and a very short paragraph (on the same single page!) describing anything interesting you tried or observed or learned. Include all of your code in the appendix. I will try to enable Canvas so you can upload your file in pdf formt into Canvas directly.**

|  |  |  |  |
| --- | --- | --- | --- |
| Method | Train Error | Test Error | Any Tuning? Comments |
| LDA |  |  | Do preprocessing with PCA, adjust pca\_result\_number=100 |
| QDA |  |  |  |
| Naïve Bayes |  |  |  |
| SVM | 0% | 10.75% | Kernel= polynomial (best result among linear, polynomial, radial basis, sigmoid) |
| Single Tree | 17.69% | 32% | control = rpart.control(cp = 0.001) from 0.05 to 0.001 the train error decrease 15% and test error decrease 7.5% |
| Random Forest | 0% | 6.5% | Variable importance mode, change permutation to 'impurity', which measures the Gini index for classification |
| Gradient Boosting |  |  |  |
| Your creation:K-NN | 8.06% | 13.5% |  |