**Extra Credit Assignment**

This extra credit will count for 6 points towards the total course grade. This means it has a high probability of changing your letter grade in this course.

For this extra credit assignment, you will create a Jupyter notebook that illustrates the use of a Support Vector Machine, Gradient Boosting, Adaboost, and Random Forest for regression analysis. You will also create a recorded video of you explaining the code in the notebook.

**Please submit the following to get full credits.**

1. Recorded video: Screen capture video of you going through the notebook. It should last approximately between 10 and 15 minutes. [50% weight]
2. Jupyter notebook: a Jupyter notebook illustrating the use of Support Vector Machine, Gradient Boosting, Adaboost, and Random Forest for regression. You should use the SVR, RandomForestRegressor, AdaBoostRegressor, and GradientBoostingRegressor functions from Scikit-learn. [50% weight]
   1. For this, you are free to use any data set that has exactly one feature. The data cannot be a simulated data set. However, the target variable should have a non-linear dependency on the feature.
   2. All the models should be tuned using GridSearchCV.
   3. You should include plots of the predicted values on the test set.
   4. The Jupyter Notebook should have proper documentation of the steps involved.