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Lab exercises: Support Vector Machines

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Tetherless World Constellation
Rensselaer Polytechnic Institute

Lab 05

https://archive.ics.uci.edu/dataset/109/wine

https://rpi.box.com/s/3imyp6czkpgikvmtxeha2gz27hmvqi28

Support Vector Machine Classification

Using the wine dataset:

- Train 2 SVM classifiers to predict the type of wine using a subset of the other 13 variables. You may choose the subset based on previous analysis. One using a linear kernel and another of your choice.
    - Use tune.svm to find the optimum C and gamma values.
- Choose another classification method (kNN, NaiveBayes, etc.) and train a classifier based on the same features.
- Compare the performance of the 2 models (Precision, Recall, F1)

Support Vector Machine Regression

Using the NY housing dataset:

- Train a SVM regression model to predict PRICE based on Square Footage and plot predicted price vs. real price.
- Train a linear model using the same formula and plot predicted price vs. real price.

Please push to your github repository:

1. All your code in a *.R or *.MD file
2. All text outputs (contingency tables)
3. All plots (group colored scatter plots, kNN accuracy plots, k-Means “elbow” plots)

Thanks!
Have a great weekend!