Dr. Sravani Vadlamani
Florida Polytechnic University

Midterm Exam Take Home

This take-home model estimation work in R accounts for 50 points on your midterm exam. Please ensure the guidelines for submissions are followed to receive full credit. ***Late submissions will not be accepted****.*

Use the Boston dataset from the ISLR2 library to predict per capita crime rate using the regression methods you learnt in the class particularly best subsets selection, lasso, and ridge regression. Assume you are submitting this analysis to someone who is seeing this data for the first time. Please provide an overview what each variable represents and include summary statistics for both continuous and categorical variables (tabular and/or graphical). Estimate the models using training and test data (80-20 split) and using cross-validation approaches (10-fold and LOOCV). Evaluate which model (or set of models) perform well. Does your chosen model(s) involve all the features in the data set? Why or why not?

You may turn in a html version of your R markdown file that is clean and easy to read (well commented code and interpretation of results).

This is due on March 3, 2022, by 11:59 PM.