

The `Auto.csv` file contains information from a sample of 392 cars, as described below

- `mpg` (miles per gallon)
- `cylinders` (between 4 and 8 cylinders)
- `displacement` (engine displacement in cubic inches)
- `horsepower` (engine horsepower)
- `weight` (pounds)
- `acceleration` (number of seconds to accelerate from 0 to 69 mph)
- `year` (Model year)
- `origin` (1. American, 2. European, 3. Japanese)
- `name` (vehicle name)

It is of interest to predict the car's mileage (`mpg`) using predictor `horsepower`. Use cross validation to find the best polynomial model. Use the following methods.

- a) Validation set approach with roughly 50% of available data as training set.
- b) Leave-One-Out (LOOCV) cross validation.
- c) K-fold cross validation