

Homework 3

IE 7275 Data Mining in Engineering

Task 1: Book Chapter

- Read chapters on “Simple Linear Regression” “Multiple Linear Regression.”

Task 2: Tutorial

- Read R tutorial on “Regression.” The data sets (women.R, mtcars.R and states.R) referenced in the tutorial are included in the Homework 3 folder to allow you practice regression model building.

Task 3: Concrete Slump Test Data

- Create a scatterplot matrix of “Concrete Slump Test Data” and select an initial set of predictor variables
- Build a few potential regression models using “Concrete Slump Test Data”
- Perform regression diagnostics using both typical approach and enhanced approach
- Identify unusual observations and take corrective measures
- Select the best regression model
- Fine tune the selection of predictor variables
- Interpret the prediction results

Task 4: Forest Fire Data

- Create a scatterplot matrix of “Forest Fire Data” and select an initial set of predictor variables
- Build a few potential regression models using “Forest Fire Data”
- Perform regression diagnostics using both typical approach and enhanced approach
- Identify unusual observations and take corrective measures
- Select the best regression model
- Fine tune the selection of predictor variables
- Interpret the prediction results