Mini_Project#2

Write your name

2025-06-25

The second mini project is exploring what we have learned in chapter 3. Multiple linear regression is going to be implemented to explore important explanatory variables in determining the the response variable. This project is due on Friday, June 25th, 2025.

You will be gathering your own data that interest you. The data set that you need for this project must contain:

1. At least 100 observations or rows.
2. Must have at least 5 explanatory variables.
3. At least one categorical variable with at least 3 levels.

You should write a report loosely formatted as a manuscript and include the following sections:

1. Introduction
2. Data description and exploratory analysis
3. Methods and analysis: This section should contain several subsection like:
   (a) Regression subset to select the most important predictors.
   (b) Check assumption of the model: you need to explain if there is any multicollinearity, heteroskedascity, autocorrealtion, outliers, and normality.
   (c) Use transformation if any of the assumption is violated.
   (d) Include interaction term
   (e) Use partial F test to check if interaction term is significant.
4. Conclusions

Grading:There are 100 points possible for this project. I will assign scores based on the point breakdown below.

- Introduction [10]
- Data Description and explanatory analysis [25]
- Method and Analysis [50]
- Conclusion [15]

Let me know if you have any questions!