

Python and Mathematics for Machine Learning

Assignment - Cleaning and Preprocessing Automobile Data:

In this project, you will investigate automobile features from a dataset and preprocess the data.

As you clean and explore this data, you will gain practice with:

- Reading simple csv files and using Pandas, Numpy, and Matplotlib
- Working with data at different levels of granularity
- Identifying the type of data collected, missing values, anomalies, etc.
- Exploring characteristics and distributions of individual variables
- Creating a simple linear regression model to utilize the cleaned dataset

Your program must satisfy the following requirements:

1. Loads the dataset from a CSV file into a pandas dataframe.
2. Clean the dataset according to:
 - i. Replacing unknown or missing values
 - ii. Changing data types
 - iii. Normalizing data values
 - iv.
3. Visualize the cleaned dataset using subplots.
4. Calculate the coefficients of a simple linear regression model and apply it to your cleaned dataset.
5. Upload your Colab script, screenshots of your console outputs, and reflection comments to this module.