

## Azure Microsoft Machine Learning Studio

### Automobile price prediction project

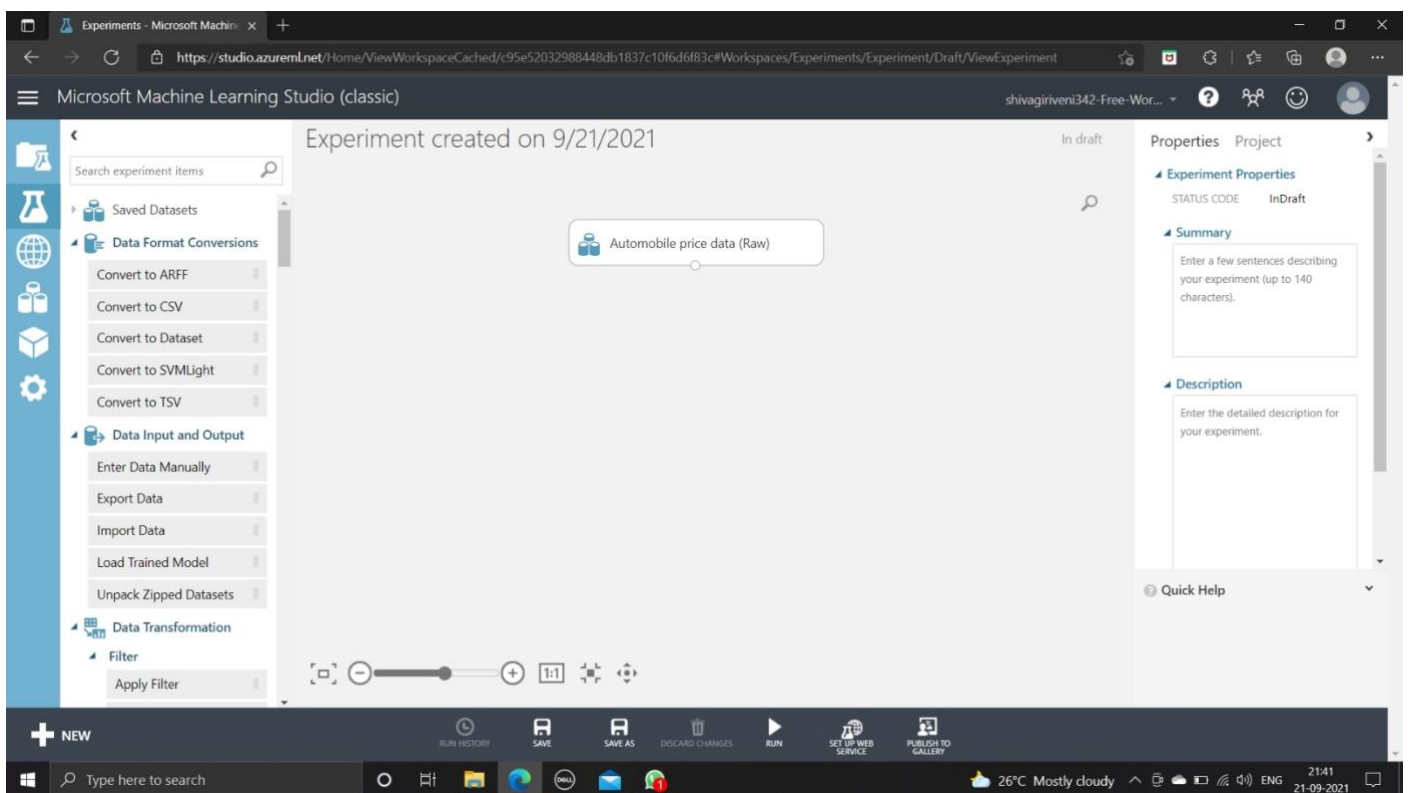
- In this project, we try to predict the automobile price through linear regression model in azure ML studio. Azure machine learning provides rich, consolidated capabilities for model training and deploying. we build the model by drag and drop method of various inbuilt functions and automobile price prediction data set which already available in studio.

#### Work flow:

1. Data import
2. Check the data for missing values
3. Preprocess data (missing value imputation, outlier treatment, normalization)
4. mode selection
5. model training
6. model testing
7. model deployment

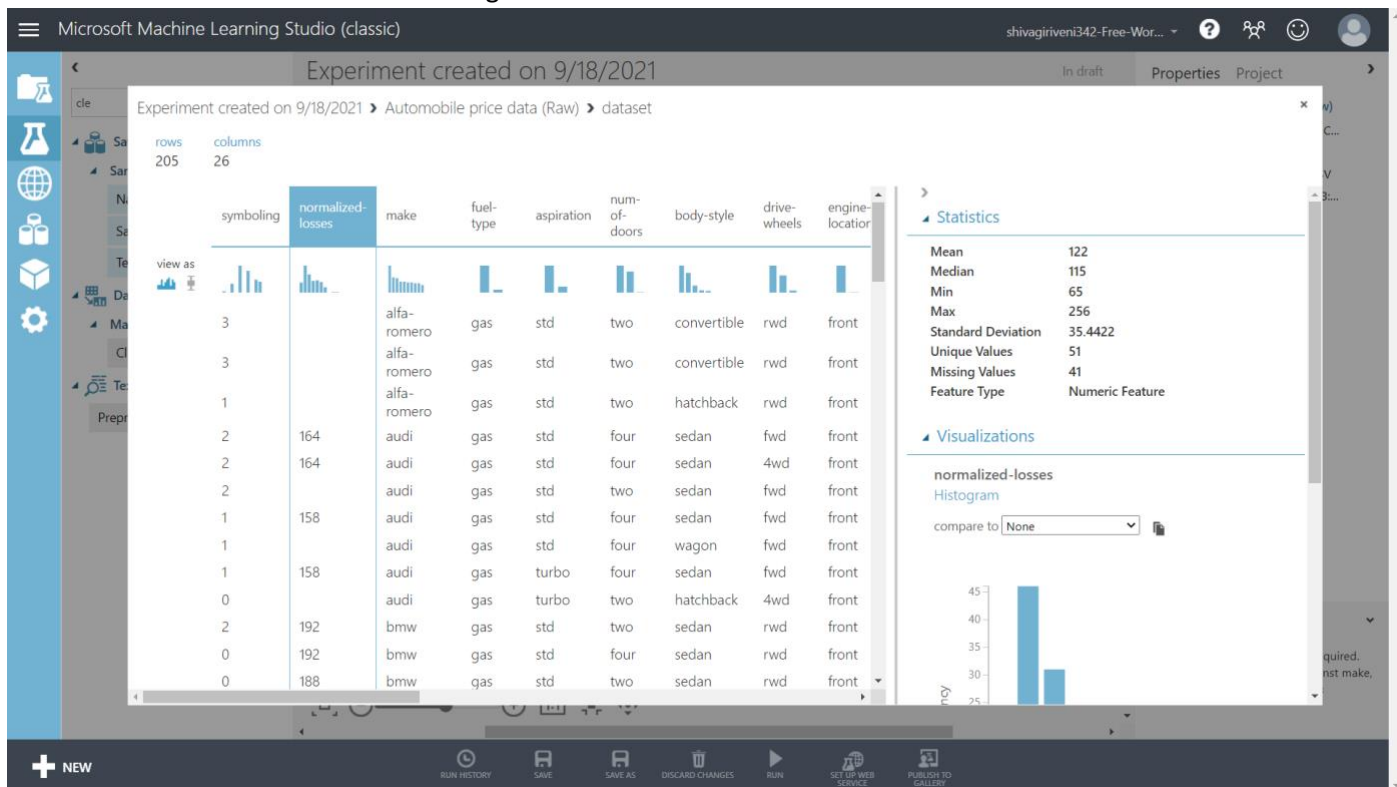
#### 1.Data import:

- Important the raw data set which is in csv format
- The data is already pre- available in azure ML classic studio



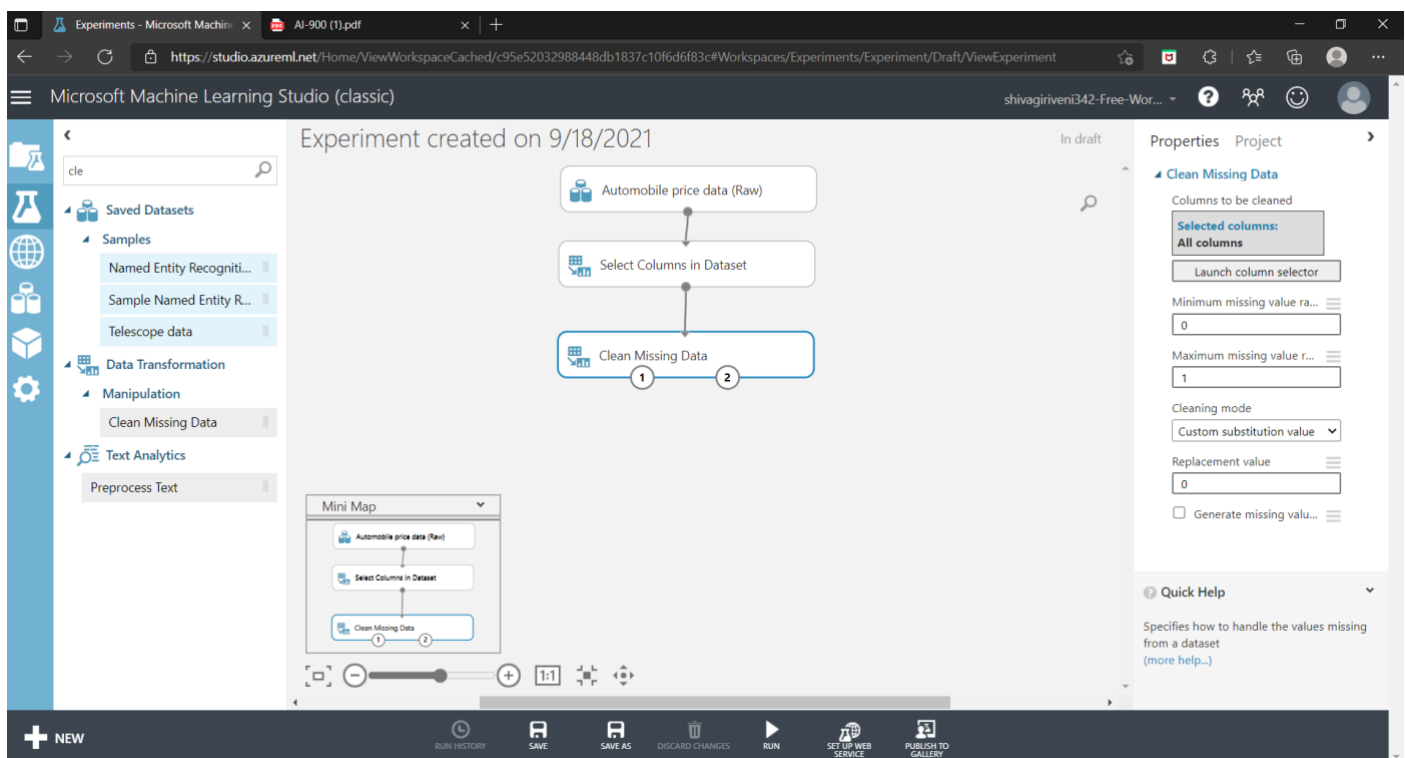
## 2. Check the data for the missing values

- In the below we can see that Normalized losses column is missing the data
- We need to check the missing values in the column

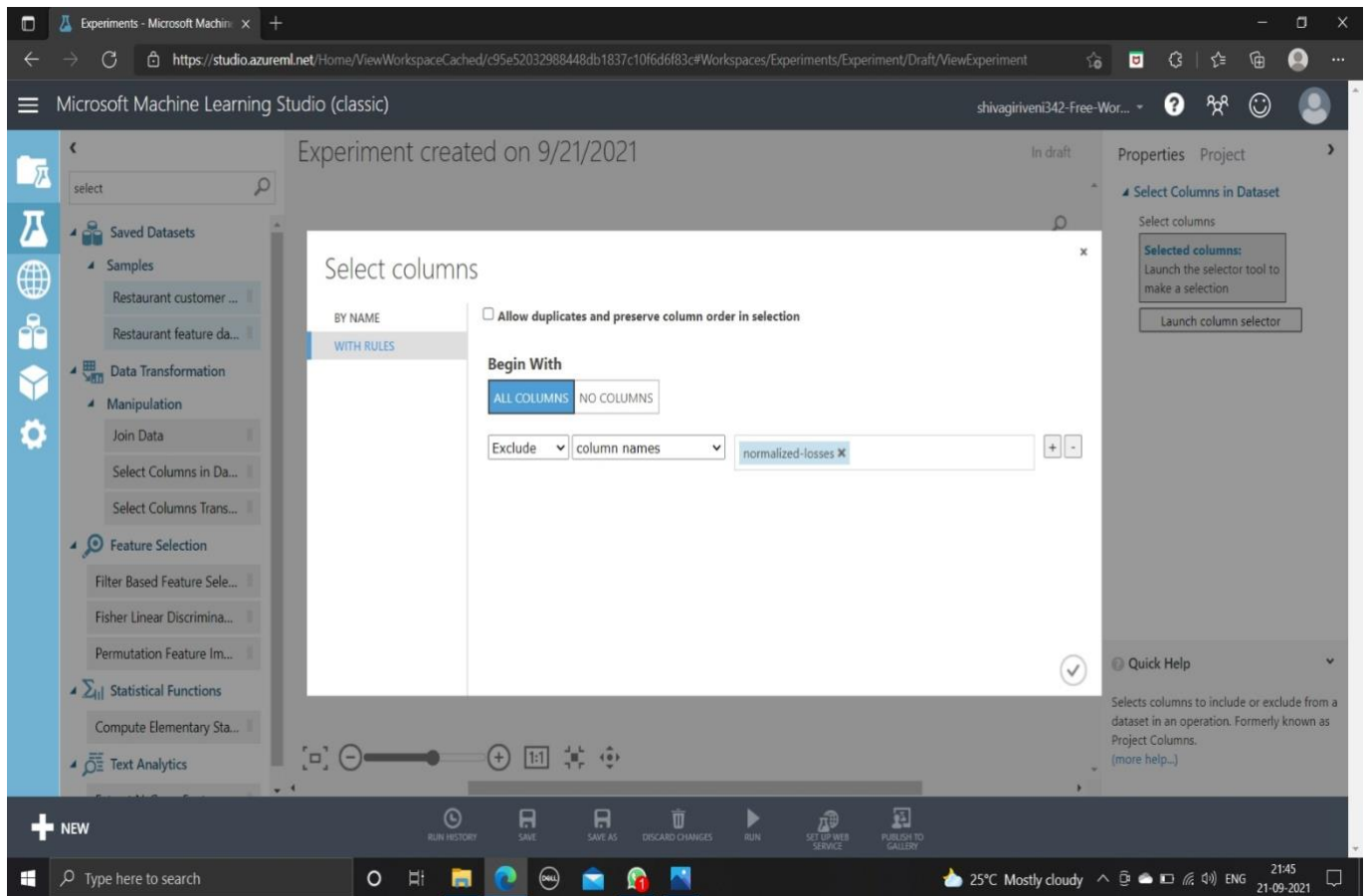


## 3. Preprocess the data

After cleaning the data of all missing values select all column in data set for splitting process

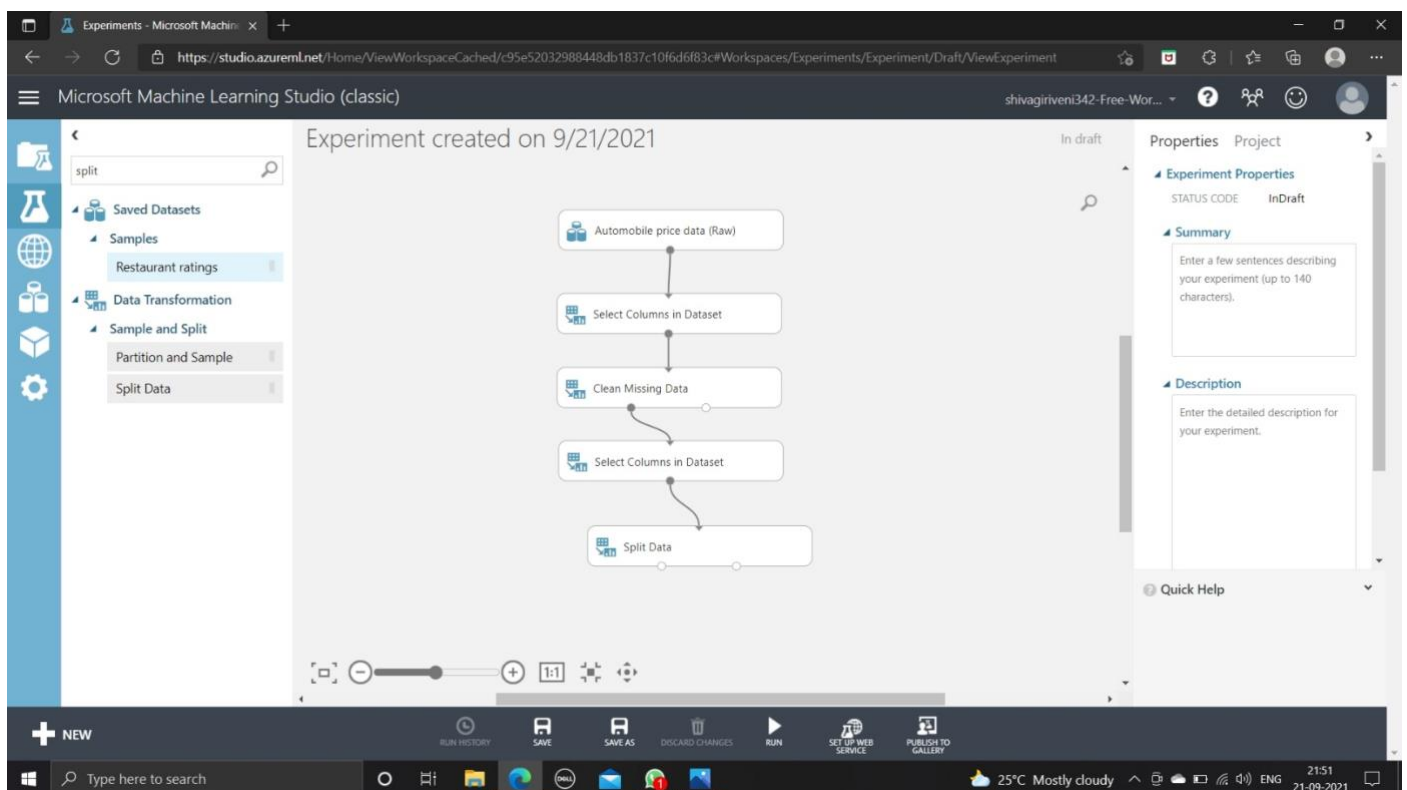


- There are many missing values in the normalized losses column so we have to exclude it.



#### 4. Split the data

- Use the split data module to randomly divide the input data .



## 5. Training Model

- We are using a linear regression to train the model

The screenshot displays the Microsoft Machine Learning Studio (classic) interface. The main workspace shows a workflow diagram for training a model. The workflow starts with 'Automobile price data (Raw)', followed by 'Select Columns in Dataset', 'Clean Missing Data', and another 'Select Columns in Dataset'. The data is then split into 'Linear Regression' and 'Split Data'. The 'Train Model' node is connected to the 'Linear Regression' node. The 'Properties' pane on the right shows the 'Train Model' properties, with 'Selected columns: price' and a 'Launch column selector' button. The 'Quick Help' pane on the right provides information about training a previously created classification or regression model. The bottom status bar indicates the experiment was created on 9/21/2021.

## 6. Evaluating the model:

- We test the how the model will work

The screenshot displays the Microsoft Machine Learning Studio (classic) interface, showing the evaluation process for a linear regression model. The main workspace shows a workflow diagram that includes the training steps from the previous screenshot, followed by 'Score Model' and 'Evaluate Model'. The 'Properties' pane on the right shows the 'Select Columns in Dataset' properties, with 'Selected columns: All columns' and 'Exclude column names: normalized-losses'. The 'Quick Help' pane on the right provides information about selecting columns to include or exclude from a dataset. The bottom status bar indicates the experiment was created on 9/18/2021 and is now 'Finished running'.

## 7.Evaluation Results

If we run the model we can the predicted results model of our model

