



Azure ML Classic Studio

Predicting Automobile prices using Regression Model in AzureML Classic Studio.

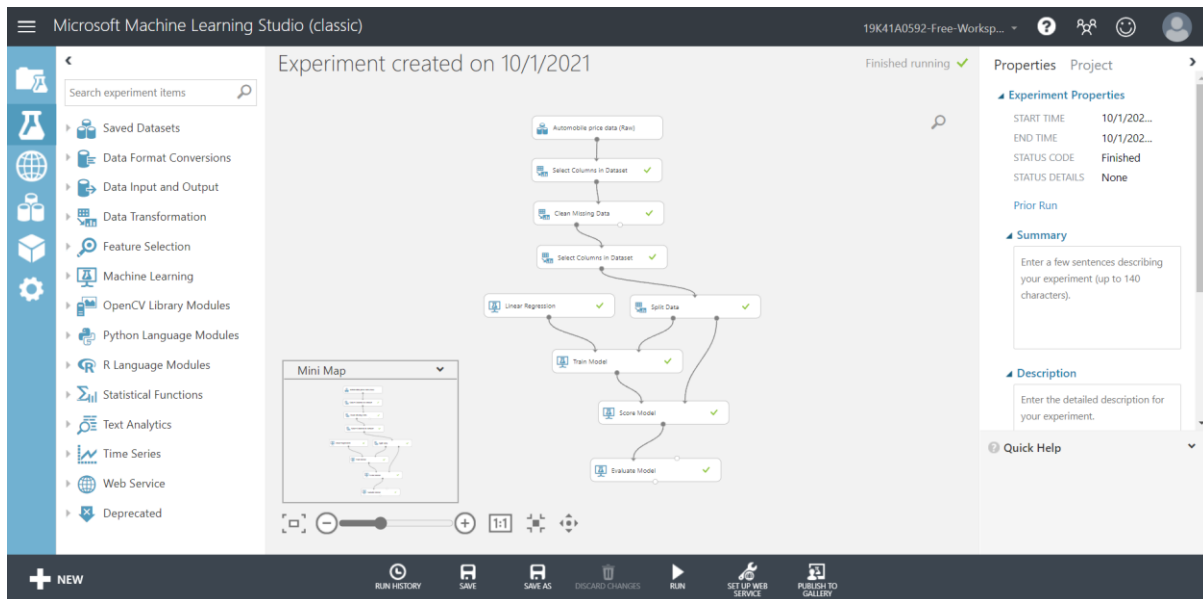
This model (Pipeline) trains a linear regression to predict a car's price based on technical features such as make, model, horsepower, and size. Because you're trying to answer the question "How much?" this is called a regression problem. However, you can apply the same fundamental steps in this example to tackle any type of machine learning problem whether it be regression, classification, clustering, and so on.

Machine Learning Project Workflow

- i. Import Data
- ii. Explore Data (Missing values, outliers)
- iii. Pre-process data (Missing value imputation, outlier treatment, normalization)
- iv. Model Selection
- v. Model Training
- vi. Model Testing
- vii. Model Deployment

Roll number: 19K41A0592

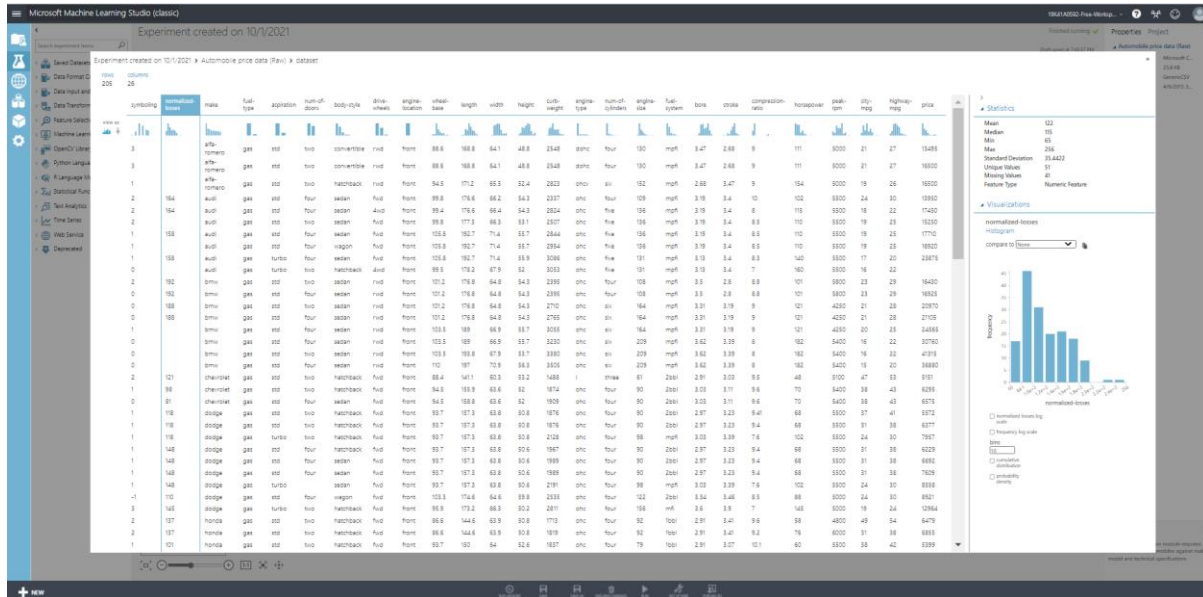
Workflow



Project workflow

Import Data

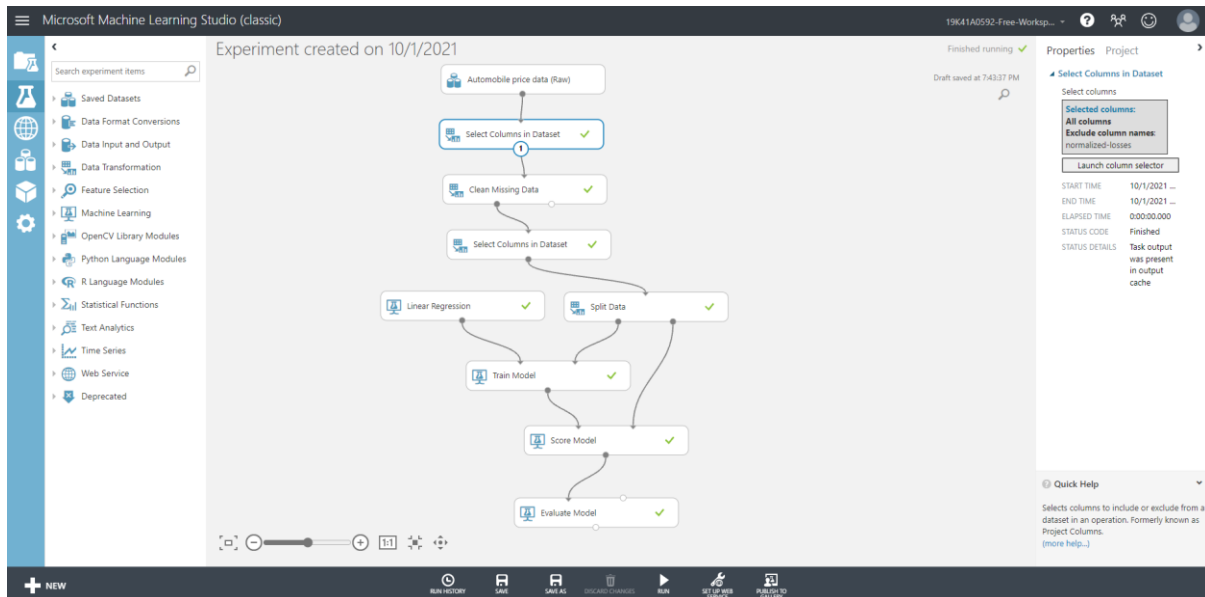
- Importing the RAW dataset which is in CSV format.
- The dataset is pre-available in the Azure ML Classic Studio.



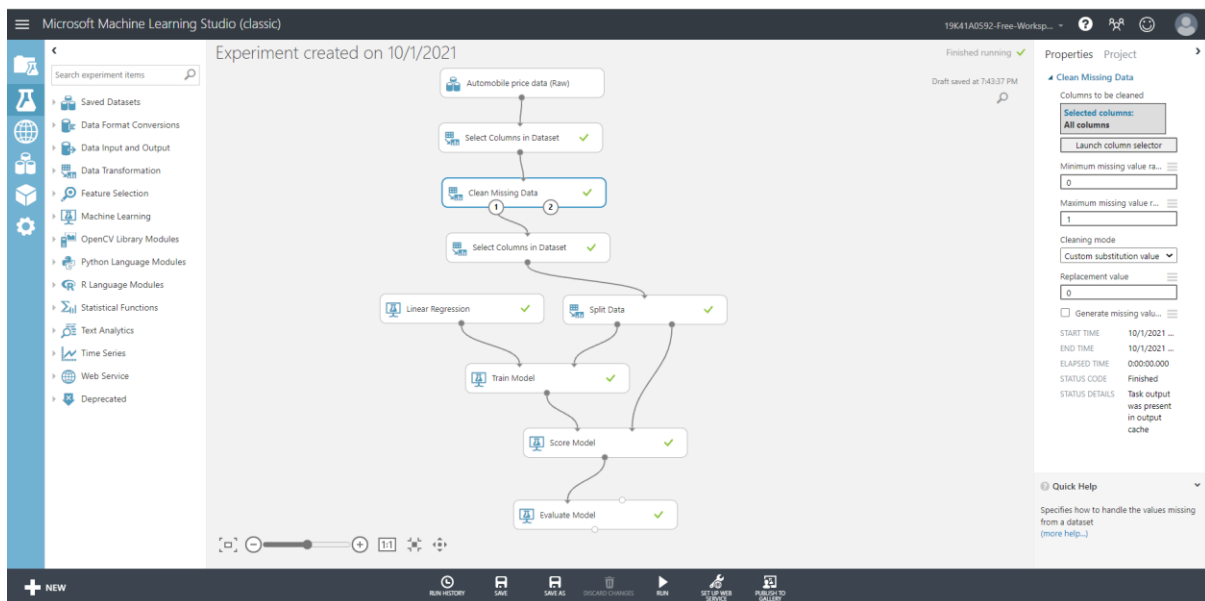
Automobile Price RAW dataset (CSV format)

Explore Data

- This basically includes data visualization to search for any missing values in the Dataset.
- If any missing values are found, then they need to be cleaned.
- Selecting the required columns and clean the data using the Clean Missing Value module (Just Drag n' Drop)



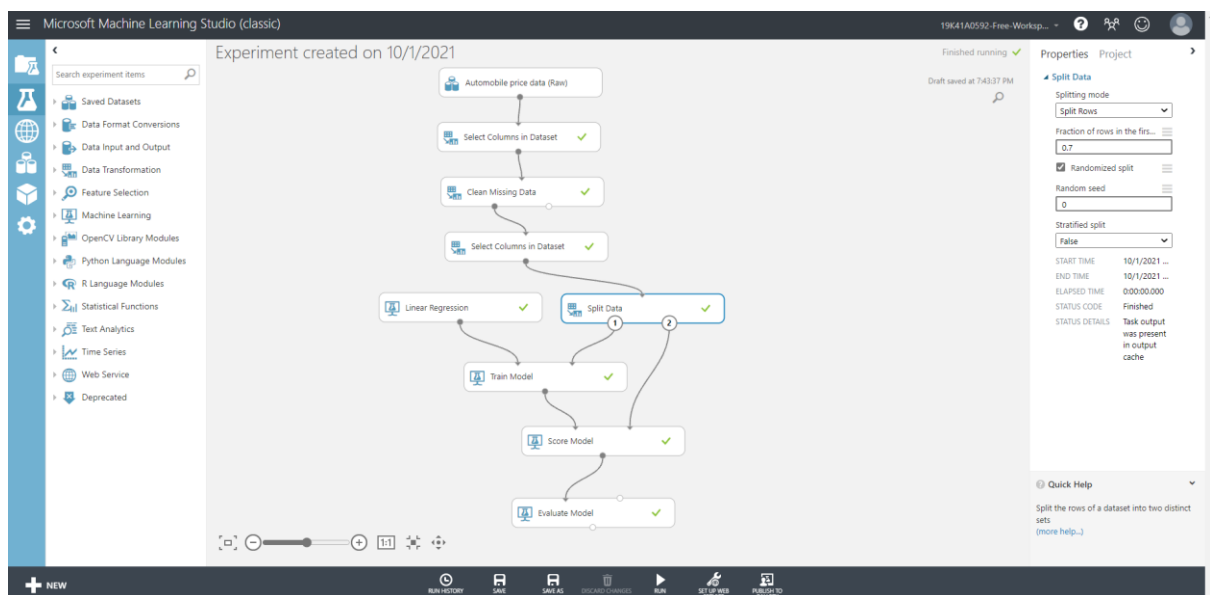
as the normalized loss has 41 missing values in the Dataset, those missing values are to be cleaned.



Data Cleaning

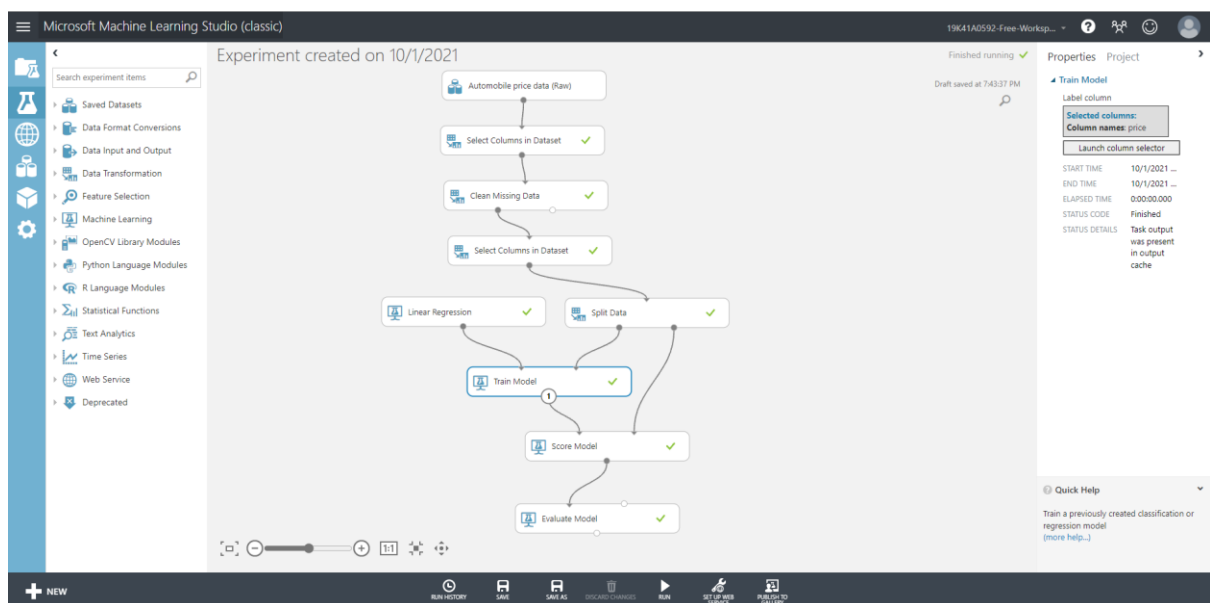
Split Data

- Use the Split Data module to randomly divide the input data so that the training dataset contains 70% of the original data and the testing dataset contains 30% of the original data.



Data Splitting

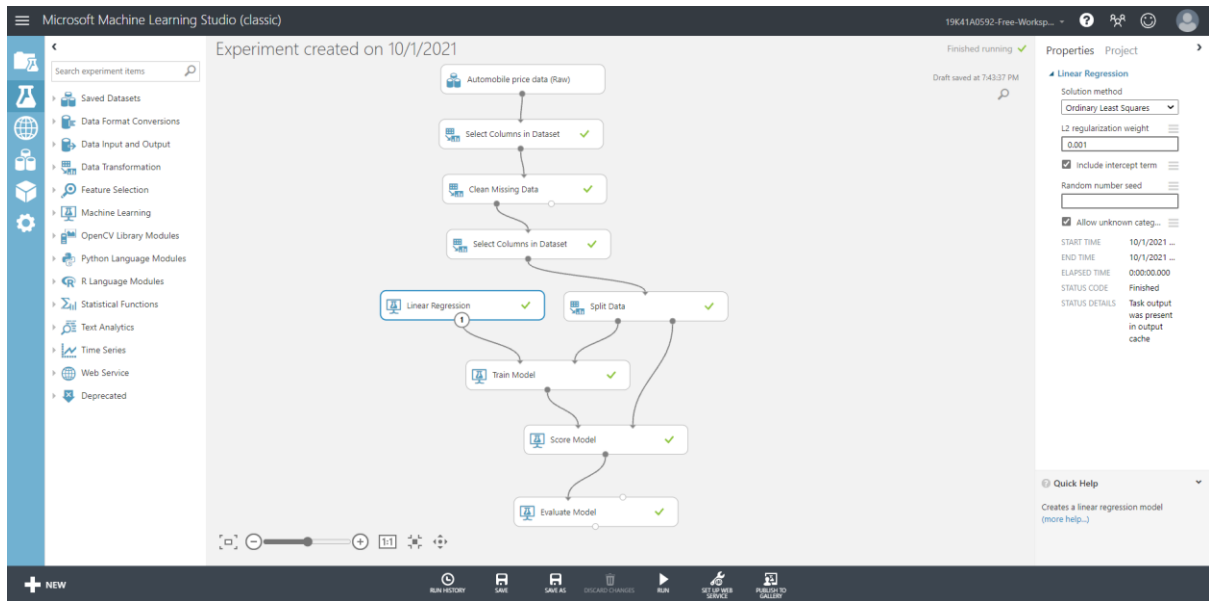
Model Training and Algorithm



Training model

Using Linear regression to train the model

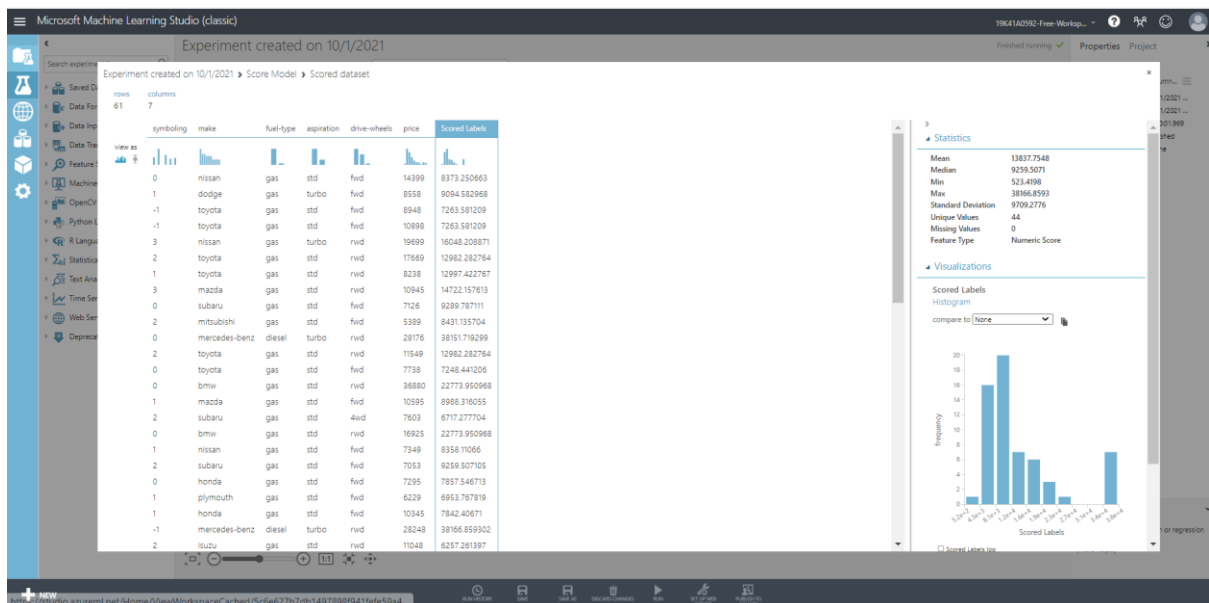
- Since the goal of this sample is to predict automobile prices, and because the label column (price) is continuous data, a regression model can be a good choice. We use Linear Regression for this pipeline.



Linear Regression

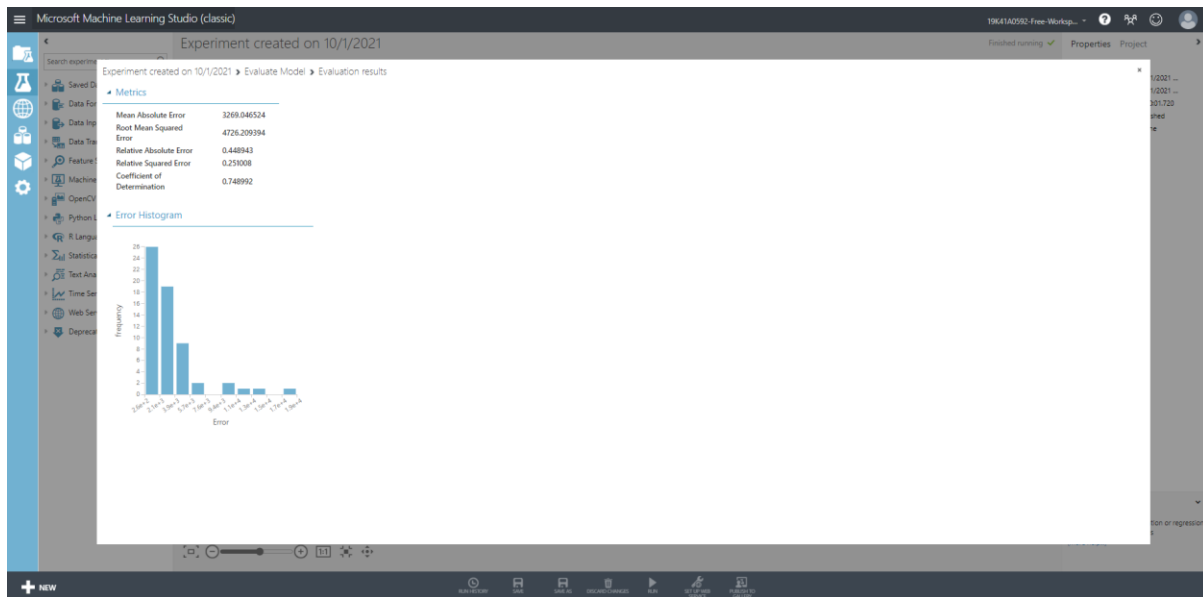
Score Model and Evaluate Model

- After the model is trained, we can use the Score Model and Evaluate Model modules to generate predicted results and evaluate the models.



Score Labels

Evaluation Results



Model Evaluation Result