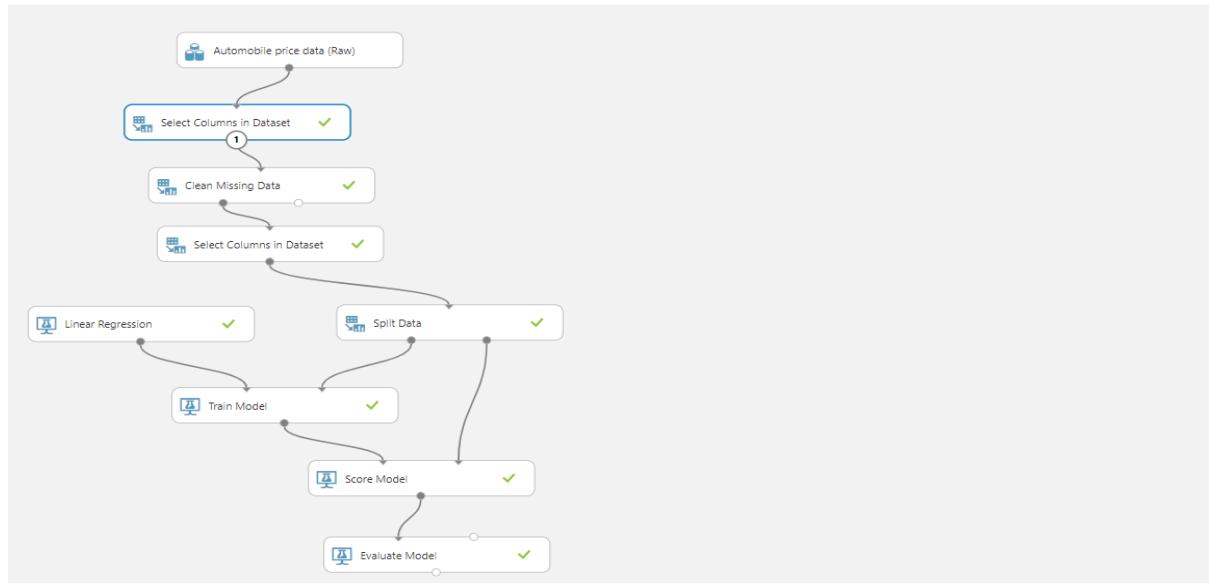


AI Assignment

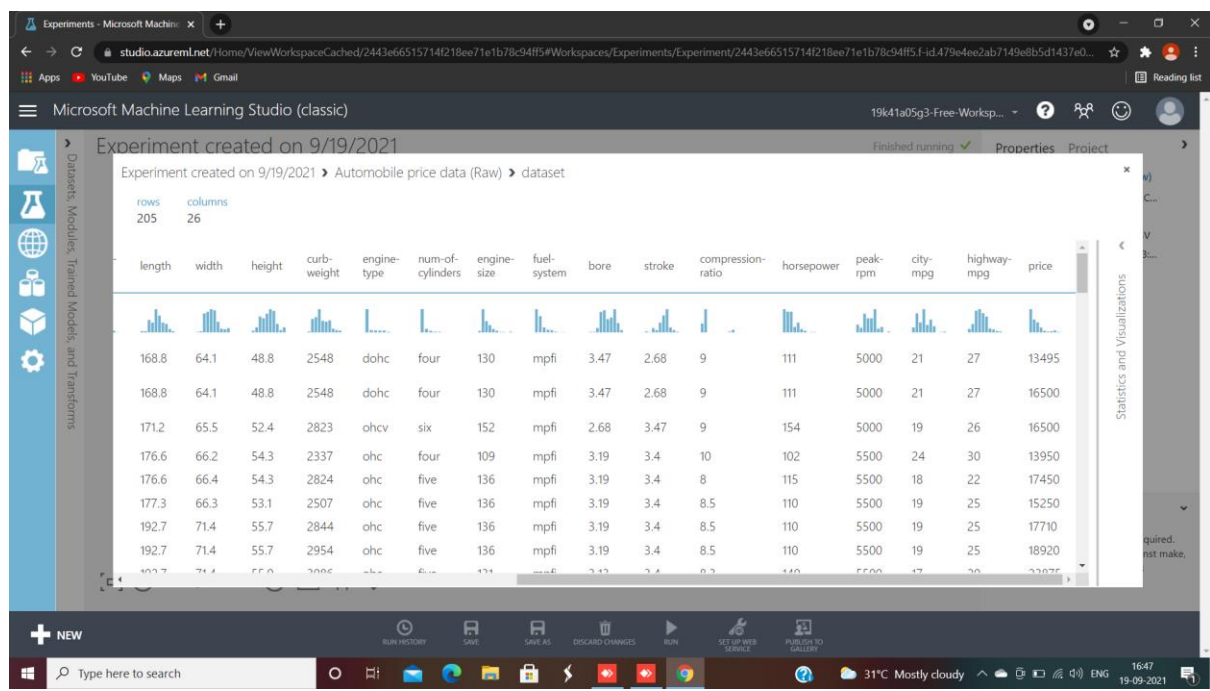
19K41A05G3

Machine learning project workflow:

Workflow:



Explore Data:



Experiments - Microsoft Machine Learning Studio (classic)

Experiment created on 9/19/2021

Finished running

Properties Project

Select Columns in Dataset

Select columns

Selected columns: All columns

Exclude column names: normalized-losses

Launch column selector

START TIME: 9/19/2021 ...

END TIME: 9/19/2021 ...

ELAPSED TIME: 0:00:01.656

STATUS CODE: Finished

STATUS DETAILS: None

View output log

Quick Help

Selects columns to include or exclude from a dataset in an operation. Formerly known as Project Columns. (more help...)

Automobile price data (Raw)

Select Columns in Dataset

Clean Missing Data

Select Columns in Dataset

Linear Regression

Split Data

Train Model

Score Model

Evaluate Model

NEW

RUN HISTORY

SAVE

SAVE AS

DISCARD CHANGES

RUN

SET UP WEB SERVICE

PUBLISH TO GALLERY

Type here to search

31°C Mostly cloudy

16:46 19-09-2021

Data Cleaning:

Experiments - Microsoft Machine Learning Studio (classic)

Experiment created on 9/19/2021

Finished running

Properties Project

Clean Missing Data

Columns to be cleaned

Selected columns: All columns

Launch column selector

Minimum missing value: 0

Maximum missing value: 1

Cleaning mode: Remove entire row

START TIME: 9/19/2021 ...

END TIME: 9/19/2021 ...

ELAPSED TIME: 0:00:01.6...

STATUS CODE: Finished

Quick Help

Specifies how to handle the values missing from a dataset (more help...)

Automobile price data (Raw)

Select Columns in Dataset

Clean Missing Data

Select Columns in Dataset

Linear Regression

Split Data

Train Model

Score Model

Evaluate Model

NEW

RUN HISTORY

SAVE

SAVE AS

DISCARD CHANGES

RUN

SET UP WEB SERVICE

PUBLISH TO GALLERY

Type here to search

31°C Mostly cloudy

16:46 19-09-2021

Split Data:

The screenshot displays the Microsoft Machine Learning Studio interface. The main workspace shows a workflow diagram with the following steps: 'Automobile price data (Raw)' -> 'Select Columns in Dataset' -> 'Clean Missing Data' -> 'Select Columns in Dataset' -> 'Split Data' -> 'Linear Regression' -> 'Train Model' -> 'Score Model' -> 'Evaluate Model'. The 'Split Data' module is highlighted, and its properties are shown on the right. The 'Splitting mode' is set to 'Split Rows', 'Fraction of rows in the ...' is 0.7, 'Randomized split' is checked, and 'Random seed' is 0. The 'Stratified split' is set to 'False'. The 'Properties' pane on the right also shows the 'Quick Help' for the 'Split Data' module, which states: 'Split the rows of a dataset into two distinct sets (more help...)'. The bottom status bar indicates the experiment is 'Finished running'.

Linear Regression:

The screenshot displays the Microsoft Machine Learning Studio interface. The main workspace shows a workflow diagram with the following steps: 'Automobile price data (Raw)' -> 'Select Columns in Dataset' -> 'Clean Missing Data' -> 'Select Columns in Dataset' -> 'Linear Regression' -> 'Train Model' -> 'Score Model' -> 'Evaluate Model'. The 'Linear Regression' module is highlighted, and its properties are shown on the right. The 'Solution method' is set to 'Ordinary Least Squares', 'L2 regularization weight' is 0.001, 'Include intercept te...' is checked, and 'Random number seed' is empty. The 'Allow unknown cat...' is also checked. The 'Properties' pane on the right also shows the 'Quick Help' for the 'Linear Regression' module, which states: 'Creates a linear regression model (more help...)'. The bottom status bar indicates the experiment is 'Finished running'.

Model Training and Algorithm:

The screenshot displays the Microsoft Machine Learning Studio (classic) interface. The main workspace shows a workflow diagram for training a Linear Regression model. The steps are: 'Automobile price data (Raw)' -> 'Select Columns in Dataset' -> 'Clean Missing Data' -> 'Select Columns in Dataset' -> 'Split Data' -> 'Train Model' -> 'Score Model' -> 'Evaluate Model'. The 'Train Model' step is highlighted with a green checkmark. The 'Properties' pane on the right shows the 'Train Model' properties, including 'Label column' (price) and 'Selected columns' (price). The 'Quick Help' section provides a link to 'Train a previously created classification or regression model'.

Score Model and Evaluation:

The screenshot displays the Microsoft Machine Learning Studio (classic) interface, showing the 'Scored dataset' table. The table has 58 rows and 26 columns. The columns are: width, height, curb-weight, engine-type, num-of-cylinders, engine-size, fuel-system, bore, stroke, compression-ratio, horsepower, peak-rpm, city-mpg, highway-mpg, price, and Scored Labels. The 'Scored Labels' column contains numerical values representing the predicted prices. The 'Statistics and Visualizations' pane on the right shows histograms for each column.

width	height	curb-weight	engine-type	num-of-cylinders	engine-size	fuel-system	bore	stroke	compression-ratio	horsepower	peak-rpm	city-mpg	highway-mpg	price	Scored Labels
155.5	56.1	2758	ohc	four	121	mpfi	3.54	3.07	9.3	110	5250	21	28	15510	13284.899402
158.8	50.8	2145	ohc	four	98	spdi	3.03	3.39	7.6	102	5500	24	30	7689	7658.867692
155.5	55.7	2212	ohc	four	109	mpfi	3.19	3.4	9	85	5250	27	34	8195	8863.220012
156.6	52	1874	ohc	four	90	2bbl	3.03	3.11	9.6	70	5400	38	43	6295	5905.454253
152.2	51.4	2734	ohc	four	119	spfi	3.43	3.23	9.2	90	5000	24	29	11048	10750.34708
157.7	56.5	3740	ohcv	eight	234	mpfi	3.46	3.1	8.3	155	4750	16	18	34184	38369.412133
158.8	54.5	1889	ohc	four	97	2bbl	3.15	3.29	9.4	69	5200	31	37	5499	5894.125916
158.8	50.8	2128	ohc	four	98	mpfi	3.03	3.39	7.6	102	5500	24	30	7957	9549.224752
157.9	53.7	3380	ohc	six	209	mpfi	3.62	3.39	8	182	5400	16	22	41315	30915.948926

Results:

