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Graded
Assignment
L10.6: AdaBoost and GradientBoost Regressor on California Housing
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AQ 10.6: Activity Question 6 - Not Graded
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Graded Assignment - 10

The due date for submitting this assignment has passed.
Due on 2024-04-10, 23:59 IST.

You may submit any number of times before the due date. The final submission will be considered for grading.

You have last submitted on: 2024-04-10, 09:40 IST

It is mandatory to use sklearn.__version__ = 1.2.2 for solving all the questions
Load dataset (used_cars.csv) from the link given below

https://drive.google.com/file/d/1FbUaj9DMShq5CShqcCkCfIFq9PMkCL3f/view?usp=sharing

Demo of example data uploaded in colab (if you need help in uploading csv data)

Consider the statement for Q1, Q2, Q3 and Q4)

Load the used cars' dataset.

The target variable or labels are in 'MSRP' column.
Remove the rows if that contain any NULL values.
Split the data into features(X) and labels(y)

Split the data into train and test subsets using 70:30 ratio with `random_state = 1`.

Train all the Estimators given below (with all default parameter values except it set random_state parameter equal to 1):

BaggingRegressor(random_state=1)
RandomForestRegressor(random_state=1)
GradientBoostingRegressor(random_state=1)
AdaBoostRegressor(random_state=1)

1) Enter the value of the 'score' on test set using BaggingRegressor.

0.792

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Range) 0.78 , 0.81

1 point

2) Enter the value of the 'score' on test set using RandomForestRegressor.

0.835

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Range) 0.82,0.85

1 point

3) Enter the value of the 'score' on test set using GradientBoostingRegressor.

0.826

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Range) 0.81,0.84

1 point

4) Enter the value of the 'score' on test set using AdaBoostRegressor.

0.698

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Range) 0.68,0.71

1 point

(Consider the statement for Q5,Q6 and Q7)

On the same data set, perform the preprocessing stated in the previous questions, and perform Hyperparameter Tuning using GridSearchCV on AdaBoostRegressor. Use random_state to be 1.

Hyperparameter tuning to be done over:

Use n_estimators as [100,500,1000]
Use learning_rate as [0.5,1,2]

Train the 'model' and compute the 'score' on the test data.

5) Enter the value of the 'score' on testing set.

Take cv value= 4

0.709

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Range) 0.695,0.723

1 point

6) Enter the value of best n_estimators of the model after training with GridSearchCV

Take cv value= 4

500

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Numeric) 500

1 point

7) Enter the value of best learning_rate of the model after training with GridSearchCV

Take cv value= 4

2

Yes, the answer is correct.
Score: 1

Accepted Answers:

(Type: Numeric) 2

1 point