Assignment #08

Hope To Skills

Free Artificial Intelligence Course

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Submission:

- Make a Google Collab notebook to implement this assignment.
- In case you face difficulty in creating the Google Collab Notebook Follow these **Steps**
- Submit a **.ipynb** file names as **HTS_Assignment_08.ipynb**
- Deadline for this Assignment is **Tuesday 01-08-2023**
- Also mention your name in the Assignment.
- Make Submission in the **Assignment-08** in Google form and press the submit button.
- To access the submission form click here
- To download the dataset, click here

Solve the Following Task

1. **Perform EDA on the Dataset Which should include**
    a. **Visualization** and explore the data using seaborn
        i. Add your findings about the data under each graph in the code notebook
    b. **Identify the data patterns** if exist for single/multiple variables
        i. Write your findings under the plots or code that identify the pattern
    c. **Clean the dataset**, remove the missing values as mentioned in the **Lectures 15**
        i. Explain your approach in the Collab notebook text cell
    d. **Select the target variable** and clearly mention the reason for selecting it.
    e. **Transform the Dataset**
        i. Transform the whole dataset (Features , Target Variable)
    f. **Split the Dataset** into train and test set
2. **Use the Scikit Learn Library to fit the Regression Models**
    a. Use the different regression models
        i. Linear regression
        ii. Decision tree Regressor
        iii. Random forest Regressor
        iv. Gradient boosting Regressor

b. You have to report the **MSE** result with the following combinations

- **i.** Without feature scaling
- **ii.** With only feature scaling (without target variable)
- **iii.** With feature and target variable scaling

c. Display the ranking of different models according to their **MSE** value