XevenSkills

Assignment # 10

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_10.ipynb**
- Deadline for this Assignment is **Tuesday 15-08-2023**
- Also mention your name in the Assignment.
- Make Submission in the **Assignment-10** in Classroom and press the submit button.
- To download the dataset, click here

Solve the Following Task

1. **Observe the dataset and**
2. **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
3. **Use the Scikit Learn Library to Make the Classification Models**
    a. Use the different regression models
        i. Logistic regression regression
        ii. Decision tree Classifier
        iii. Random forest Classifier
        iv. Gradient boosting Classifier

a. You have to report the result with the following combinations Make the Confusion Matrix, Report the Accuracy, Precision and Recall **i.** Without feature scaling

ii. With only feature scaling (without target variable)

iii. With feature and target variable scaling

b. What evaluation metric should we use and why provide the reason for that.