TREELEAF TECHNOLOGIES PVT. LTD.

MACHINE LEARNING INTERNSHIP

QUALIFICATION TASK

TASK DESCRIPTION:

#1 Task: Bank loan classification

Description:

You are given a dataset of the bank loans consisting of 15 columns and a corresponding target column. Your task is to build a machine-learning model that can accurately classify whether the personal loan was accepted or not based on the information provided.

Dataset:

The dataset is provided in a Xlsx file with the following columns and their details:

- ID: ID of the customer
- Age: Age of the customer
- Gender: M for Male, F for Female and O for Others
- Experience: Amount of work experience in years
- Income: Amount of annual income (in thousands)
- Home Ownership: Home Owner, Rent and Home Mortgage.
- Zipcode: Postal code in which the client lives
- Family: Number of family members
- CCAvg: Average monthly spending with the credit card (in thousands)

- Education: Education level (1: bachelor's degree, 2: master's degree, 3: advanced/professional degree)
- Mortgage: Value of home mortgage, if any (in thousands)
- Securities Account: Does the customer have a securities account with the bank?
- CD Account: Does the customer have a certificate of deposit account (CD) with the bank?
- Online: Does the customer use the internet banking facilities?
- CreditCard: Does the customer use a credit card issued by the bank?
- Personal Loan: Did this customer accept the personal loan offered in the last campaign? (Target Variable)

Deliverables:

A Jupyter notebook or Python script that contains your code, along with comments explaining the different steps and rationale behind your approach.

Do all the necessary data preprocessing, EDA and feature engineering before training the model.

The trained machine learning model is saved in a format that can be easily loaded and used for prediction.

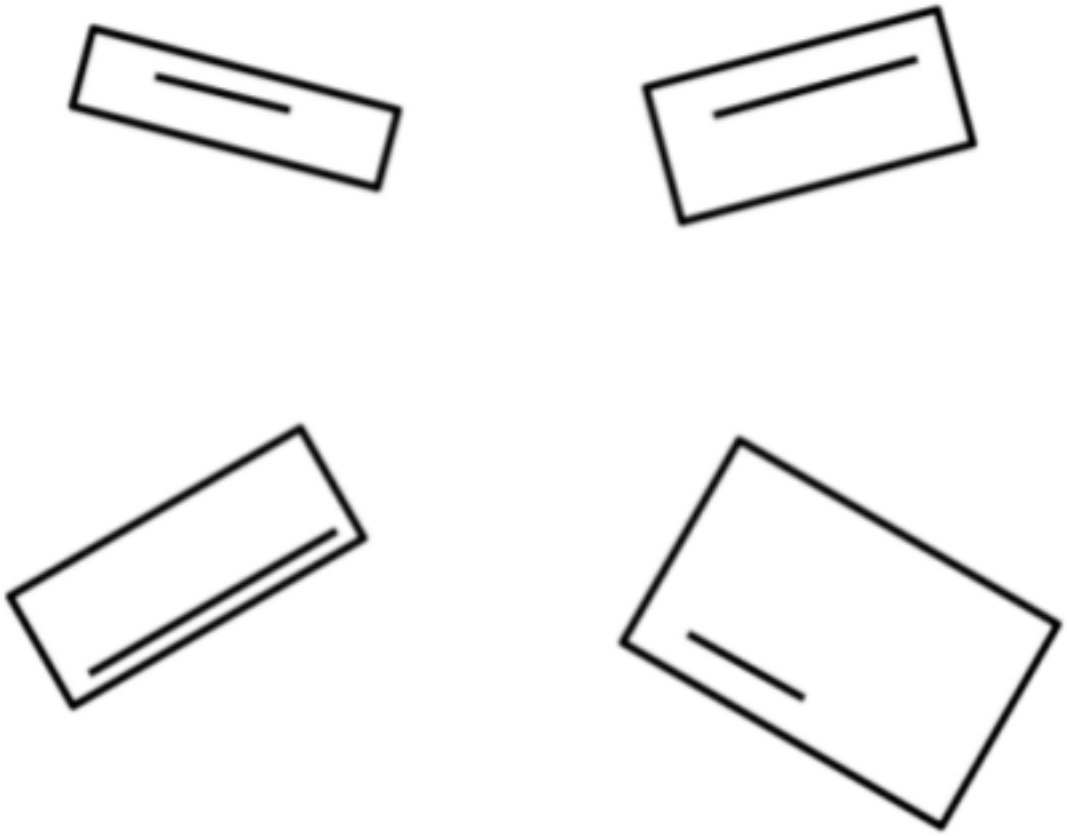
A brief report (in PDF format) summarizing your approach, key findings, and any insights or observations from the analysis.

Task 2: Task Description: ● From the given image below complete the following given task:

Task 1: Assign the number (1 to 4) below the image of the rectangle with respect to its length inside the rectangle. The shorter the line lower the number (No need to reorder the image of the rectangle, only give numbering)

Task 2: Align(make the rectangle image straight) all the given images of the rectangle. Both of the tasks are different, please do them separately.

Make 2 python files with the names rectangle_numbering.py and rectangle_alignment.py. Place your Task 1 and Task 2 code there.



Note:

- *You are encouraged to experiment with different approaches, algorithms, and techniques to improve the performance of your model.*
- *You may use any Python libraries or frameworks commonly used in machine learning, such as scikit-learn, openCV, TensorFlow, or PyTorch.*
- *Push your task code to GitHub(public) and share the link in the mail.*

Best of luck with your ML internship hiring exam!