

## Assignment: Customer Churn Prediction

### Dear Trainees,

As part of our internship program, I am assigning you a task to help solidify your understanding of the concepts we have covered in our sessions, I am assigning a practical task to help you apply what you have learned.

**Tasks:** import the dataset, perform thorough data preprocessing including handling missing values, encoding categorical variables, and feature scaling, then proceed to build a machine learning model using an appropriate algorithm based on the problem type, followed by evaluating its performance using relevant metrics to assess accuracy, precision, recall, or other performance.

### Assignment Steps:

#### 1. Import Dataset

Import dataset and start working on it.

#### 2. Data Preprocessing

Handle missing values (if any).

Perform feature engineering (scaling, encoding, etc.).

Identify and address any data imbalances.

#### 3. Model Development

Choose an appropriate model based on your problem.

Train your model and evaluate its performance (use accuracy, precision, recall, or other relevant metrics).

Improve your model's accuracy using hyperparameter tuning and feature selection techniques. (Optionally)

#### 4. Submit Your Work

Upload your project (dataset, code) to GitHub.

**Deliverables:**

- Proper data preprocessing and feature engineering.
- No Need for deep visualizations.
- Model accuracy improvement (above 85%)
- Clean and well-documented code
- Correct submission on GitHub

✚ **Submit your assignment by Sunday 23/03/2025 Until 12:00PM**

**Additional Notes:**

- If you have any questions or need clarification, feel free to reach out to me.
- This assignment is an opportunity to practice and apply your knowledge, so make the most of it.

**Best regards,**

DS. Tariq