**Bank Customer Churn Prediction**

**[DAB 303] Surbhi Patel [0794150]**

**Section: 006**

**Introduction:**

Predicting customer churn involves identifying the clients most likely to stop using your service or cancel their subscription. This forecast is significant for many businesses. This is since obtaining new clients frequently costs more than maintaining current ones. You need to know precisely what marketing efforts to do with each customer to increase their likelihood of sticking around once you've identified those who are likely to go.

**About Dataset:**

This dataset is for ABC Multistate bank obtaining from the Kaggle website. It has total 12 features and 10,000 observations. Some features are categorical, and some are numeric. Features are listed as customer\_id, credit\_score, country, gender, age, tenure, balance, products\_number, credit\_card, active\_member, estimated\_salary, and churn. Aim is to predict the customer churn for ABC Multistate bank.

**Link of the dataset**: [Bank Customer Churn Dataset | Kaggle](https://www.kaggle.com/datasets/gauravtopre/bank-customer-churn-dataset)

**Business objective:**

The goal of this project is to identify the features that affect a lot to the churn of customers. After that, it is very important to know how these features affect the customer churn. As there are many methods for prediction, identify which are the best method to predict churn.

**Methodology:**

* Data Collection
* Data Cleaning (MS Excel, SQL, Python)
* Exploratory Data Analysis (Python)
* Variable distribution in churn and non-churn for categorical and numerical variable (Python)
* Data Visualization (Excel, Tableau, Python)
* Data Pre-processing (Python)
* Build and apply suitable algorithms (Python)
* Feature selection (Find Confusion matrix, accuracy, recall, precision, and f1 score for the model (Python))

**Evaluation:**

The main part of the project is evaluation. By using the confusion matrix, score of accuracy, recall, precision and f1 score, features can be identified to overcome churn. Also, by training and testing the model, model selection can be done.

**References:**

[Bank Customer Churn Prediction Using Machine Learning (analyticsvidhya.com)](https://www.analyticsvidhya.com/blog/2022/09/bank-customer-churn-prediction-using-machine-learning/#h2_4)