**Customer-Churn-Prediction:**

**Churn prediction means detecting which customers are likely to cancel a subscription to a service based on how they use the service. It is a critical prediction for many businesses because acquiring new clients often costs more than retaining existing ones. Once you can identify those customers that are at risk of cancelling, you should know exactly what marketing action to take for each individual customer to maximise the chances that the customer will remain.**

**Why is it so important?**

**Customer churn is a common problem across businesses in many sectors. If you want to grow as a company, you have to invest in acquiring new clients. Every time a client leaves, it represents a significant investment lost. Both time and effort need to be channelled into replacing them. Being able to predict when a client is likely to leave, and offer them incentives to stay, can offer huge savings to a business.**

**About This Project:**

* **The dataset has 20 columns, which could represent a variety of customer information, such as demographics, purchase history, and engagement levels.**
* **The total number of customers is 5,000, and 14% of them are expected to churn, which means that 707 customers are at risk of leaving.**
* **Churn is a costly problem for businesses, as it can lead to lost revenue, increased marketing costs, and damage to the brand reputation.**
* **Therefore, it is important to be able to predict which customers are at risk of churning so that targeted interventions can be implemented to prevent them from leaving.**
* **The company can use the churn prediction model to identify customers who are most likely to churn and then take steps to address their specific concerns. This could involve offering discounts, providing personalized customer service, or making changes to the product or service.**
* **By retaining customers, businesses can improve their bottom line and build a more loyal customer base.**

**Steps involved in Model Deployment:**

**Data Analysis (EDA)**

**Data Preprocessing.**

**Feature Engineering.**

**Feature Selection (SelectKBest)**

**Fit into Algorithm (ML Algorithm)**

**Hyper Parameter Tunning**

**Dump model**

**Creating Web Application using Streamlit**

**Deployed in Web using Streamlit** **local host**

**Packages Used:**

**This project requires Python and the following packages are in below:**

**Numpy**

**Pandas**

**Matplotlib**

**Seaborn**

**Scikit-learn**

**Scipy**

**Imblearn**

**Counter**

**Streamlit**

**Objective:**

**Predict the customer likely to be Churn or not by using Gradient Boost Classifier and my target is to find customer to be Churn or Not.**