**Project**

**Telco Customer Churn Prediction:**

Churn is a one of the biggest problems in the telecom industry. Research has shown that the average monthly churn rate among the top 4 wireless carriers in the US is 1.9% - 2%.

**The data set includes information about:**

* Customers who left within the last month – the column is called Churn
* Services that each customer has signed up for – phone, multiple lines, internet, online security, online backup, device protection, tech support, and streaming TV and movies
* Customer account information – how long they’ve been a customer, contract, payment method, paperless billing, monthly charges, and total charges
* Demographic info about customers – gender, age range, and if they have partners and dependents

**Objective:** To create a classification filter (Using all classification models and compare their performances) to determine Churn from Telecom dataset. Compare the performance of the filters.

Dataset: Source: <https://www.kaggle.com/datasets/blastchar/telco-customer-churn>

**Variable Descriptions:**

| **Variable Name** | **Description** | **Type** |
| --- | --- | --- |
| customerID | Unique identifier for each customer. | Categorical (ID) |
| gender | Customer's gender. | Categorical |
| SeniorCitizen | Indicates if the customer is a senior citizen. | Binary (0=No, 1=Yes) |
| Partner | Whether the customer has a partner. | Categorical |
| Dependents | Whether the customer has dependents. | Categorical |
| tenure | Number of months the customer has been with the company. | Numerical |
| PhoneService | Whether the customer has phone service. | Categorical |
| MultipleLines | Whether the customer has multiple phone lines. | Categorical |
| InternetService | Type of internet service. | Categorical |
| OnlineSecurity | Whether online security is part of their service. | Categorical |
| OnlineBackup | Whether online backup is part of their service. | Categorical |
| DeviceProtection | Whether device protection is included. | Categorical |
| TechSupport | Whether tech support is included. | Categorical |
| StreamingTV | Whether the customer has a streaming TV service. | Categorical |
| StreamingMovies | Whether the customer has a streaming movie service. | Categorical |
| Contract | Type of contract the customer has. | Categorical |
| PaperlessBilling | Whether the customer has opted for paperless billing. | Categorical |
| PaymentMethod | Customer's method of payment. | Categorical |
| MonthlyCharges | Monthly fee the customer is charged. | Numerical |
| TotalCharges | Total amount the customer has been charged. | Numerical |
| Churn | Whether the customer churned (left the service). | Binary (Yes/No) |