**Telco Customer Churn Analysis**

**Dataset:** Telco\_customer\_churn.xlsx

**Overview:** This project focuses on analyzing customer churn for a telecommunications company. The workflow includes data preprocessing, encoding categorical features, standardizing numerical columns, and applying a Random Forest Classifier to determine feature importance.

**Steps Performed:**

1. **Data Loading:** Imported the dataset into a Jupyter Notebook and explored its structure.
2. **Data Cleaning:** Handled missing values appropriately to ensure completeness.
3. **Label Encoding:** Applied LabelEncoder to binary categorical columns.
4. **One-Hot Encoding:** Transformed multi-class categorical features using OneHotEncoder.
5. **Feature Standardization:** Standardized numerical columns using StandardScaler for model readiness.
6. **Modeling & Feature Importance:**
   * Applied **Random Forest Classifier** to predict customer churn.
   * Visualized the **feature importance** to identify key factors influencing churn.

**Outcome:**  
This analysis provides insights into which features most strongly impact customer churn, helping business stakeholders make data-driven decisions for retention strategies.