TELECOM CUSTOMER CHURN

ANALYSIS & PREDICTION

CONTENT

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- DATA PREPARATION & EDA
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PROJECT OVERVIEW

Objectives

Developing Customer
360 degree
(Root Causes)

Building Churn
Prediction Model

Generate Target lists
for Campaigns
(Optimized Revenues)

Approach:

- Finding Churn Root Causes and Customer Segmentation using Power BI and Python
- Building Machine Learning Prediction Model (Gradient Boost, Random Forest, Decision Tree, Principal Component Analysis, Grid Search CV, SMOTEENN, Joblib & Streamlit)
- Making recommendations and generating new strategy campaigns based on customer personas and targeted customers

All Tools use:

DATA SOURCE & PREPARATION

Load Data

- [IBM Sample Data Sets]: WA_Fn-UseC_-Telco-Customer-Churn Data
- Customers who left within the last month

Analyze Original Data

- Correlation data
- Unnecessary data

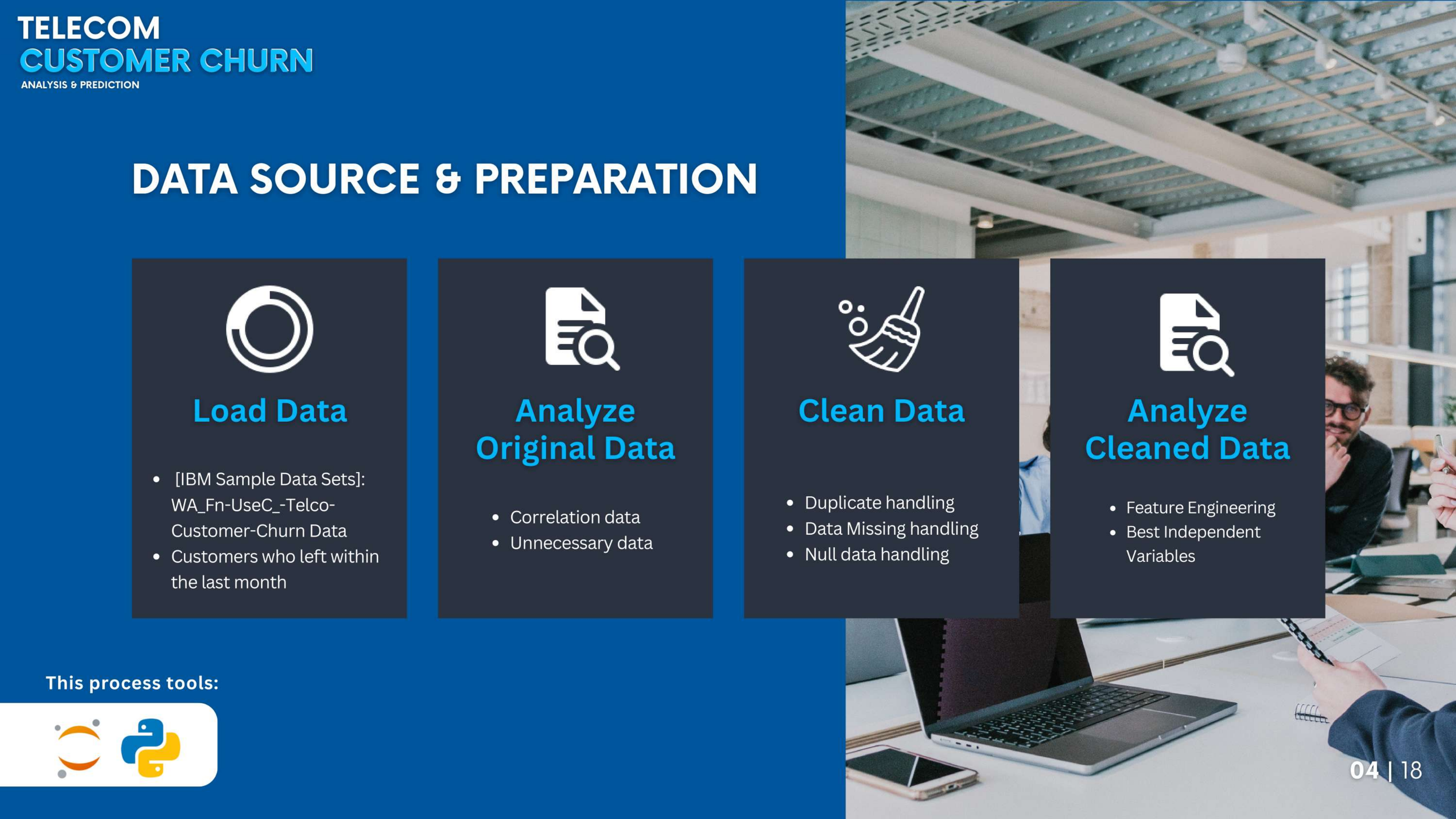
Clean Data

- Duplicate handling
- Data Missing handling
- Null data handling

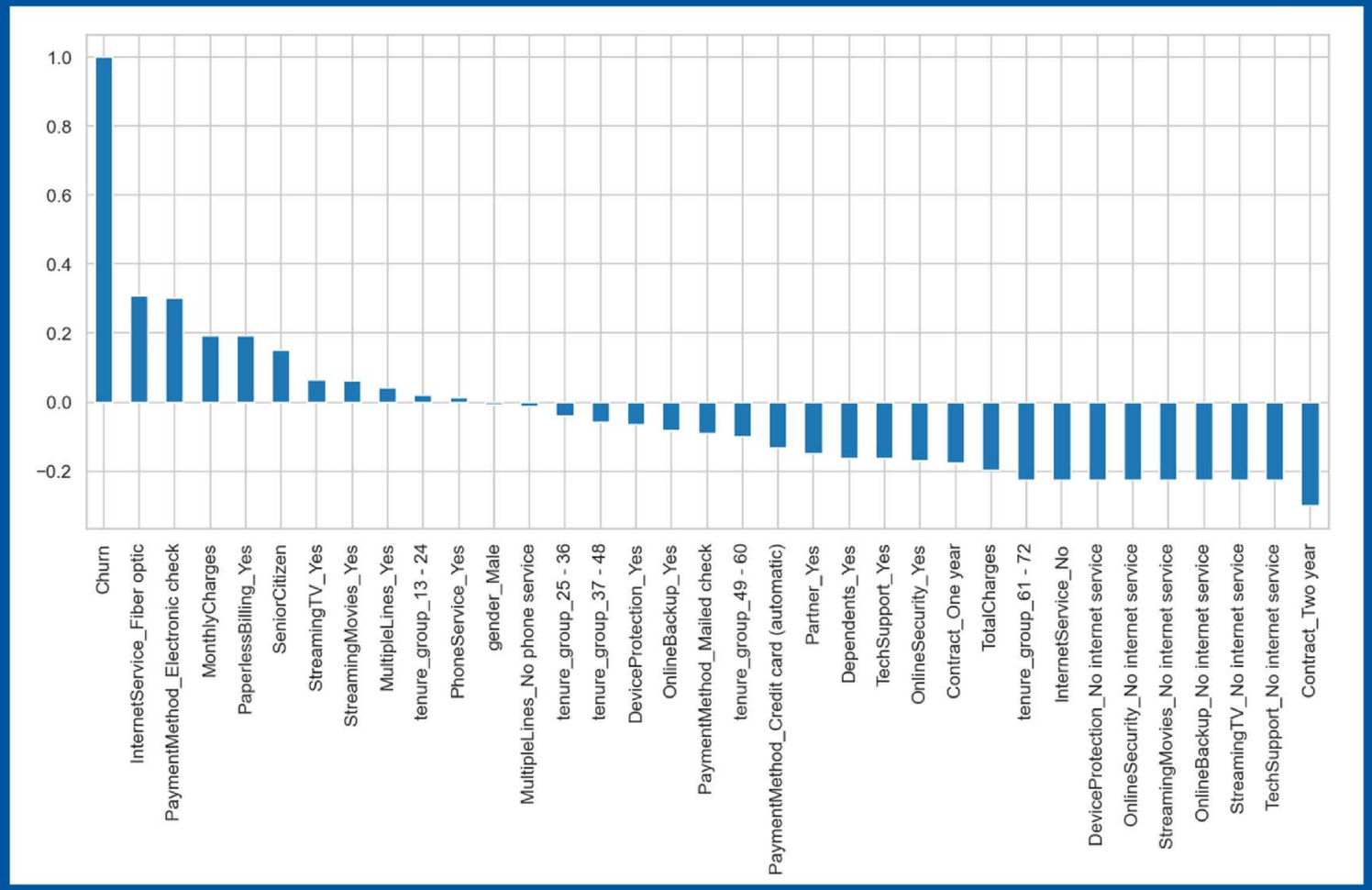
Analyze Cleaned Data

- Feature Engineering
- Best Independent Variables

This process tools:



EXPLORATORY DATA ANALYSIS (EDA)



HIGH Churn is seen in the case of

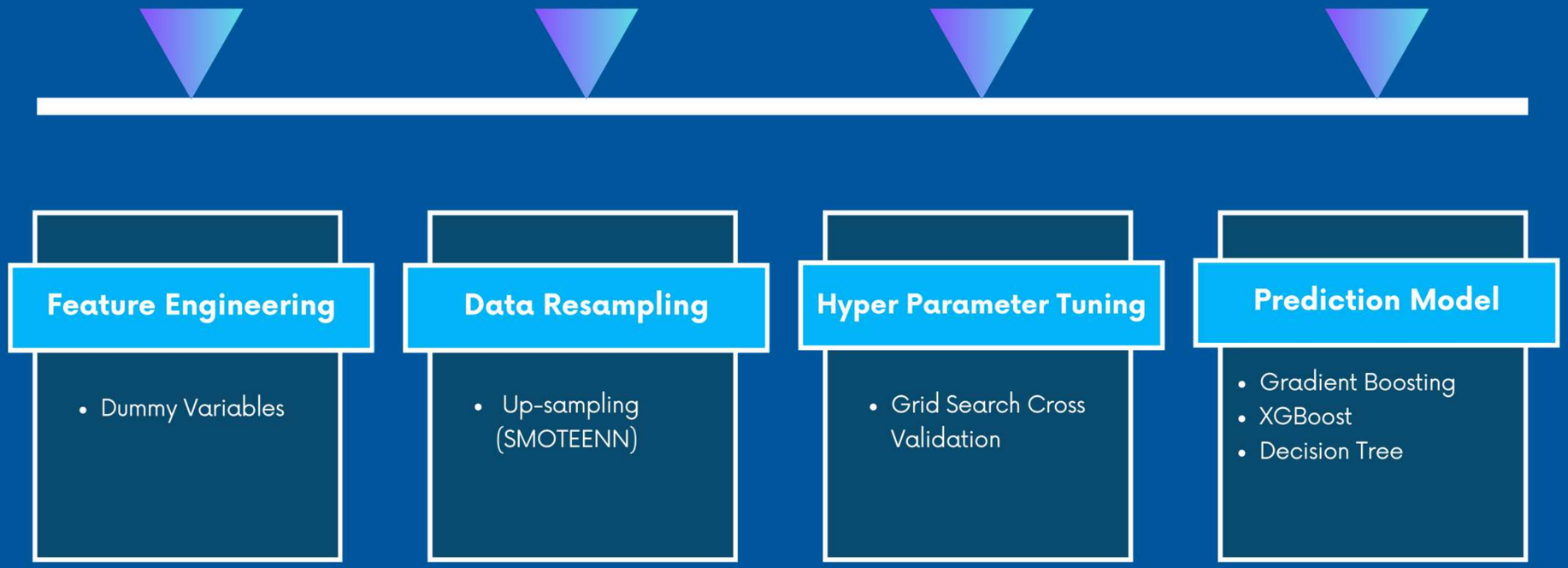
- **Month-to-month contracts**
- **No online security**
- **No Tech support,**
- **Non-senior citizen**
- **First year of subscription**
- and **Fiber Optics Internet**

LOW Churn is seen in case of

- **Long-term contracts,**
- **Subscriptions without internet service**
- and **The customers engaged for 5+ years**

Factors like **Gender**, **Availability of PhoneService** and **# of multiple lines** have alomost **NO** impact on Churn

MODEL DEVELOPMENT



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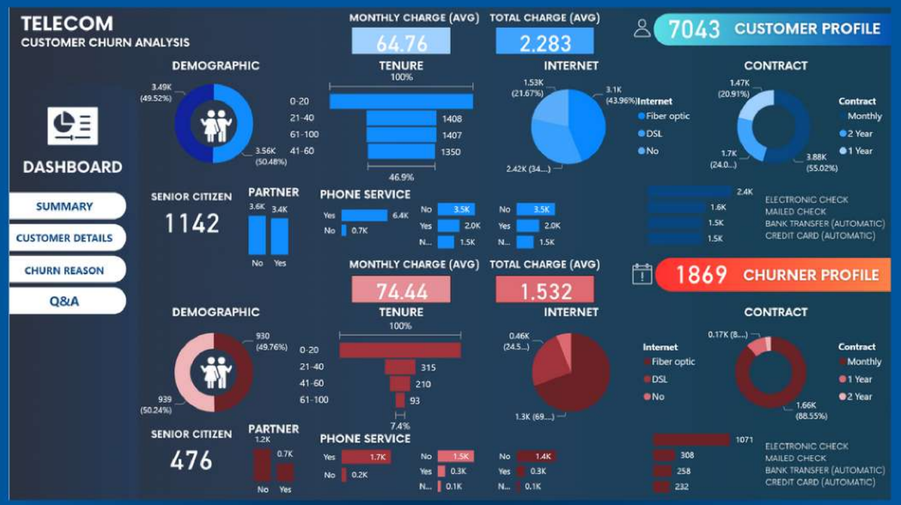
PREDICTIVE ANALYSIS | POWER BI



SUMMARY

CUSTOMER DETAILS

CHURN REASONS

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ANALYSIS & PREDICTION

PREDICTIVE ANALYSIS | POWER BI

Reasons of **HIGH** Churn

- **Electronic check medium**
- **Month-to-month contracts**
- **No online security**
- **No Tech support**
- **Non-senior citizen**
- **The first year of subscription**
- and **Fiber Optics Internet**

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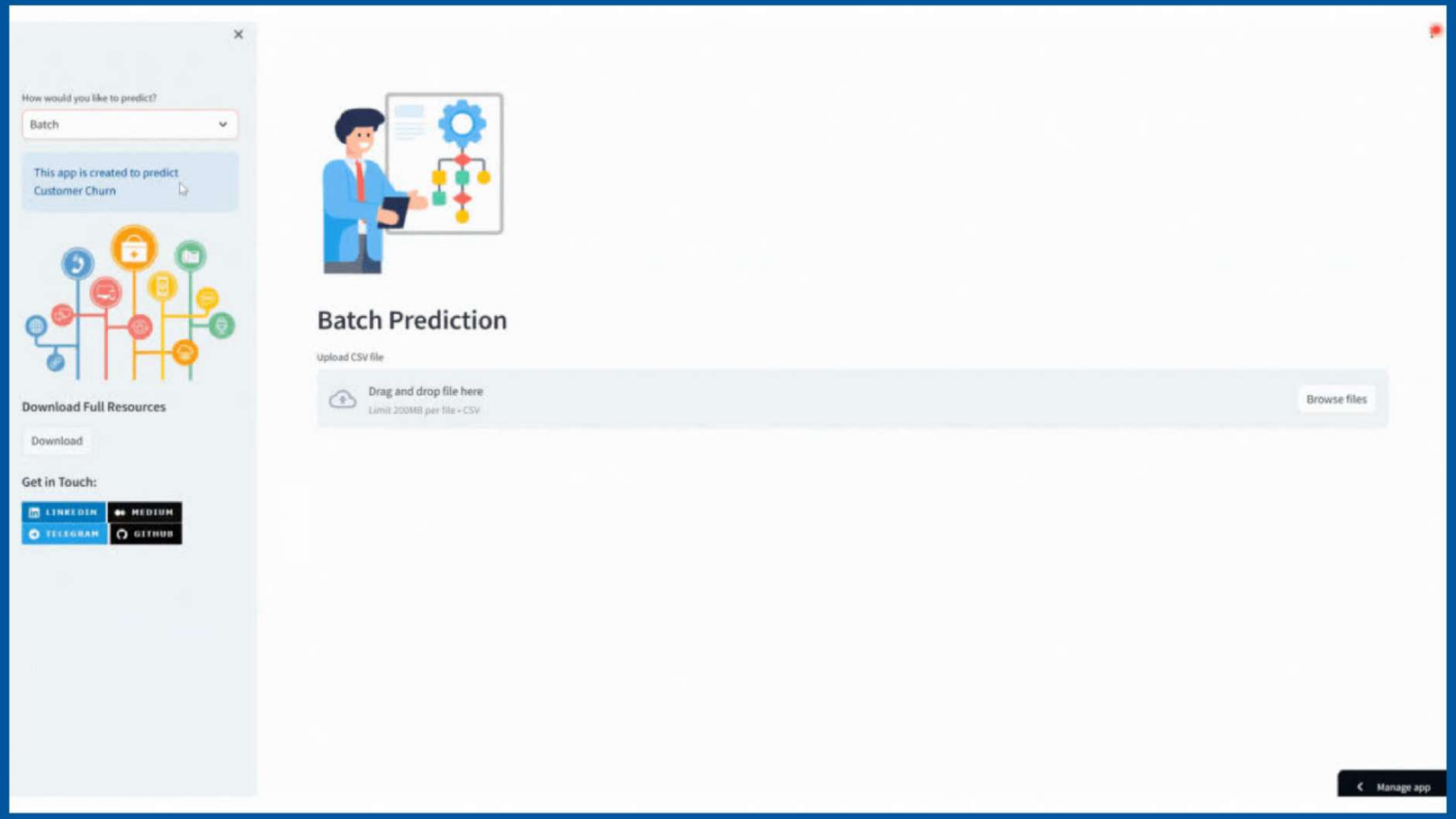
PREDICTION | WEB APP



- Using 7 independent variables
- The model used: Gradient Boosting Classifier
- Joblib & Streamlit

This process tools:

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