MACHINE LEARNING PROJECT:
CUSTOMER CHURN PREDICTION

INTRODUCTION:

Developed a predictive model for customer churn using XGBoost, leveraging advanced machine learning techniques to enhance retention strategies for a subscription-based service.

KEY ALGORITHMS USED:

The model involved comprehensive data preprocessing, including One-Hot Encoding for categorical variables, and utilized a robust pipeline and column transformer for efficient workflow management. Implemented hyperparameter tuning to optimize model performance, achieving significant improvements in accuracy and recall metrics.

MODEL PERFORMANCE METRICS:

Accuracy: Achieved an accuracy of 90%
Precision: Recorded a precision of 91%, indicating the proportion of true positive predictions among all positive predictions.
Recall (Sensitivity): Achieved a recall of 96%, showing the model's ability to correctly identify positive cases.

This project demonstrated strong analytical skills and proficiency in applying machine learning frameworks, contributing to insights that can drive data-informed decision-making in customer relationship management.