SLIDE 1: TITLE SLIDE

- **Title:** Predicting Customer Churn for Syria Tel

- **Subtitle:** A Data-Driven Approach to Improving Customer Retention

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- **Date:** 23/2/2025

SLIDE 2: OVERVIEW

- **What is Churn?** Customers who leave the service.

- **Why Does It Matter?** Customer retention is crucial for revenue.

- **Objective:** Use data to predict which customers are at risk of leaving.

SLIDE 3: BUSINESS AND DATA UNDERSTANDING
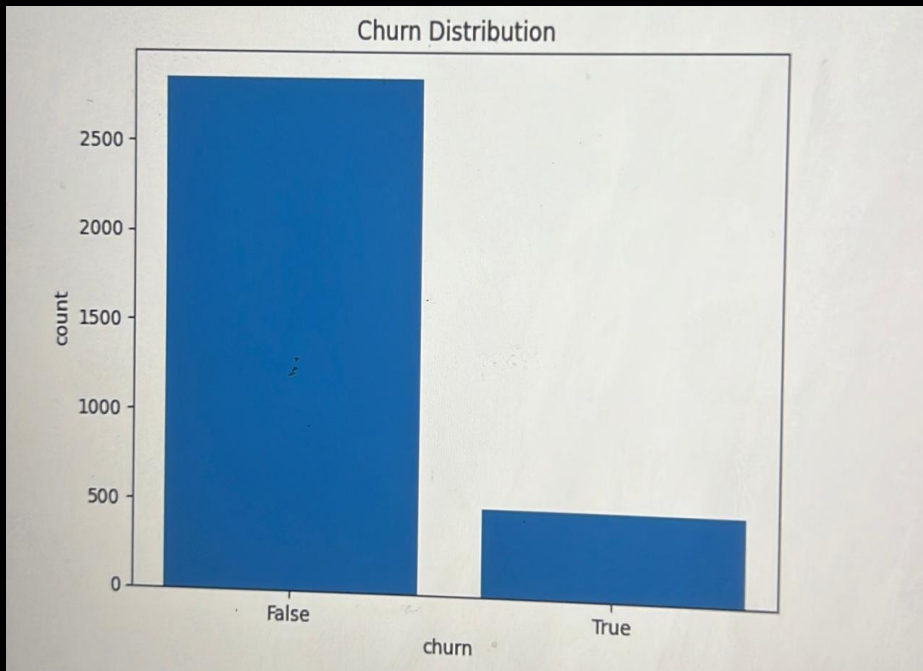
Business Problem: Syria Tel wants to reduce customer churn.

Data Used: Customer usage patterns, billing, and service calls.

Approach: Analyze historical data to identify churn indicators.

SLIDE 4: WHAT IS CLASSIFICATION?

Churn Distribution

Definition: A machine learning technique that categorizes data.

Why It Matters: Helps predict whether a customer will churn (Yes/No).

Real-World Example: Banks predicting loan defaults.

For our case the churn is shown in the diagram

Feature Importances for Tuned Decision Tree Model

SLIDE 5: KEY FACTORS IN CHURN PREDICTION
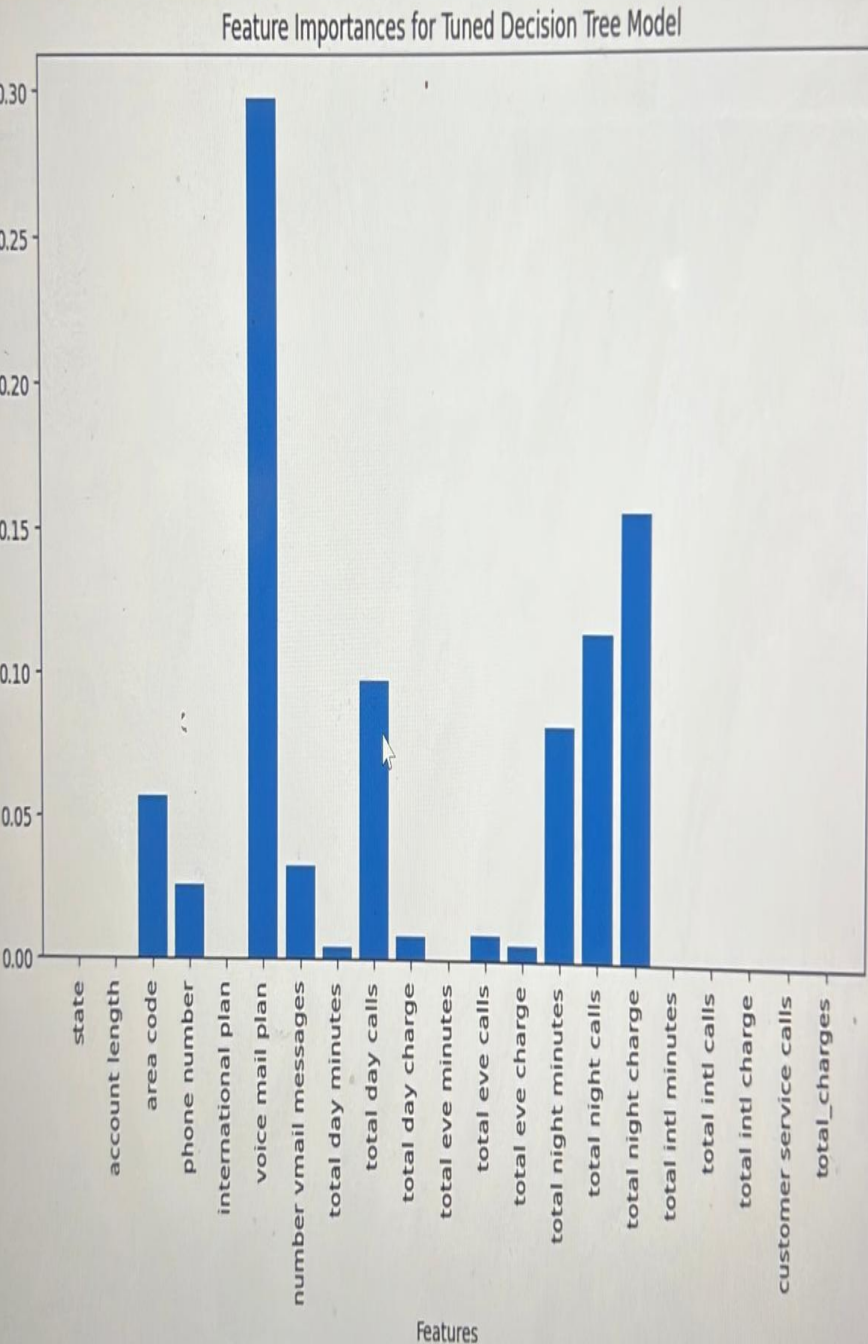
- Most Important Features:

  Customer Service Calls: High calls often indicate frustration.

  Monthly Charges: Higher bills may lead to dissatisfaction.

  Contract Type: Short-term customers churn more often.
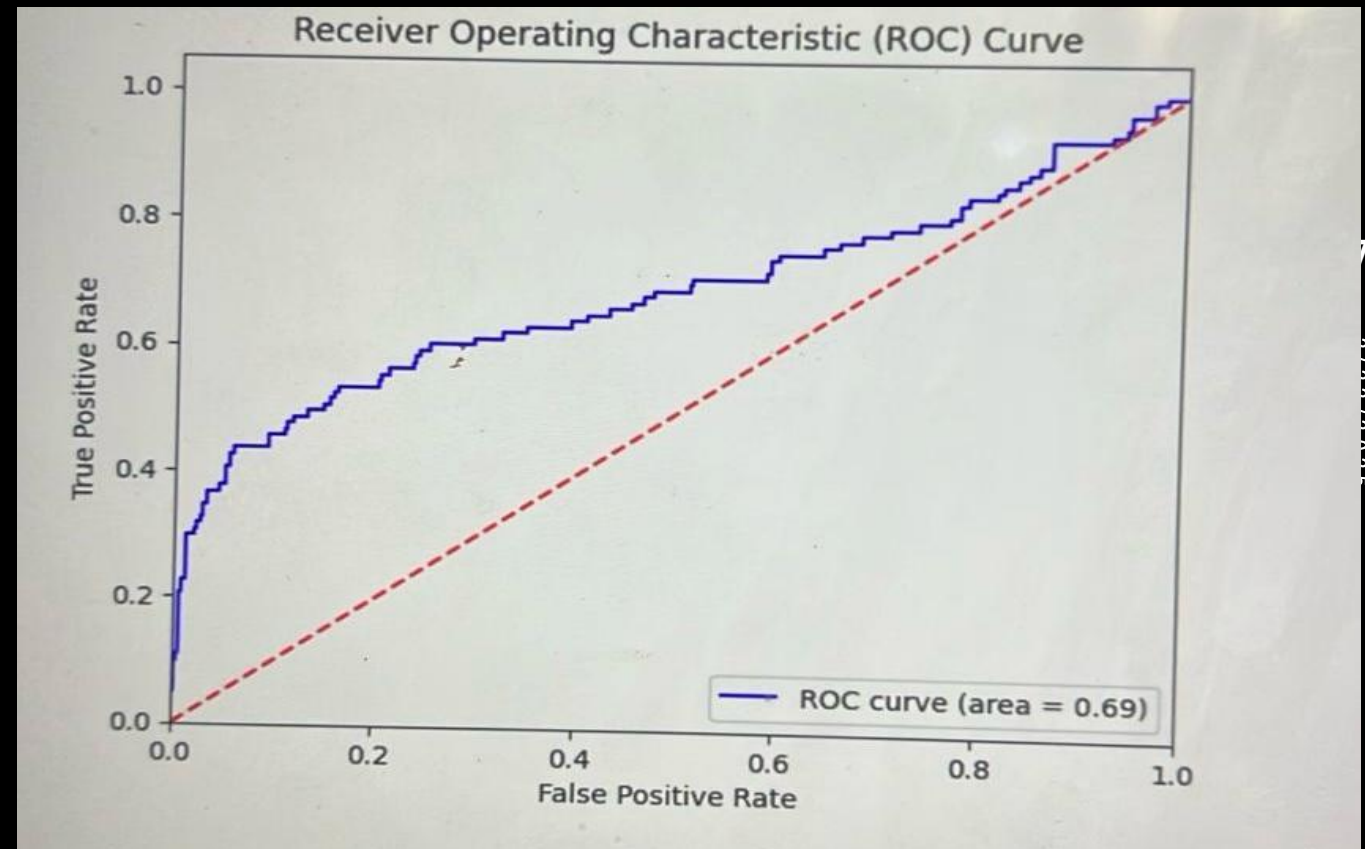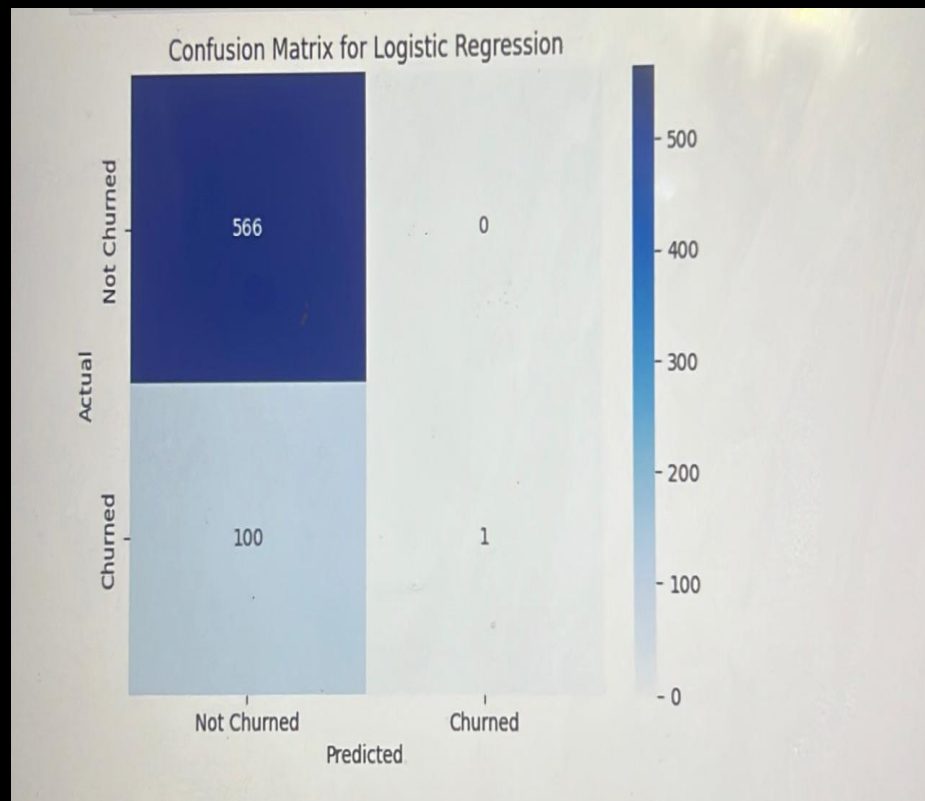
USED & EVALUATION

Models Tested:
- **Logistic Regression:** Simple and interpretable.
- **Decision Tree:** More flexible and powerful.
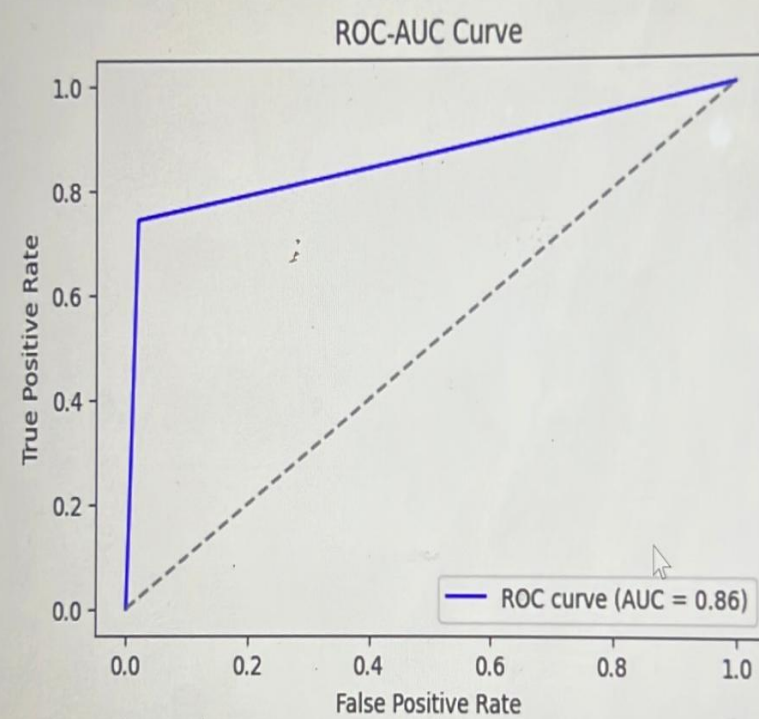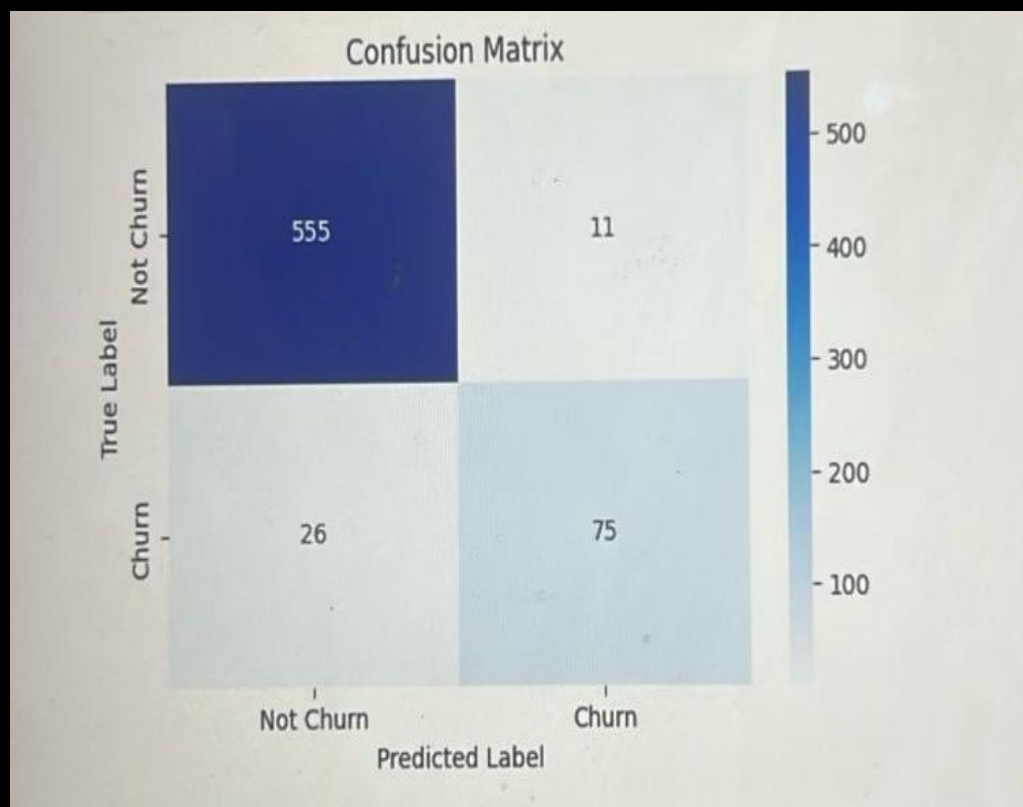- **Tuned Decision Tree:** Improved accuracy by adjusting parameters.

Performance Metrics:
- **Accuracy:** How often the model was correct.
- **Precision & Recall:** How well the model identified actual churners.
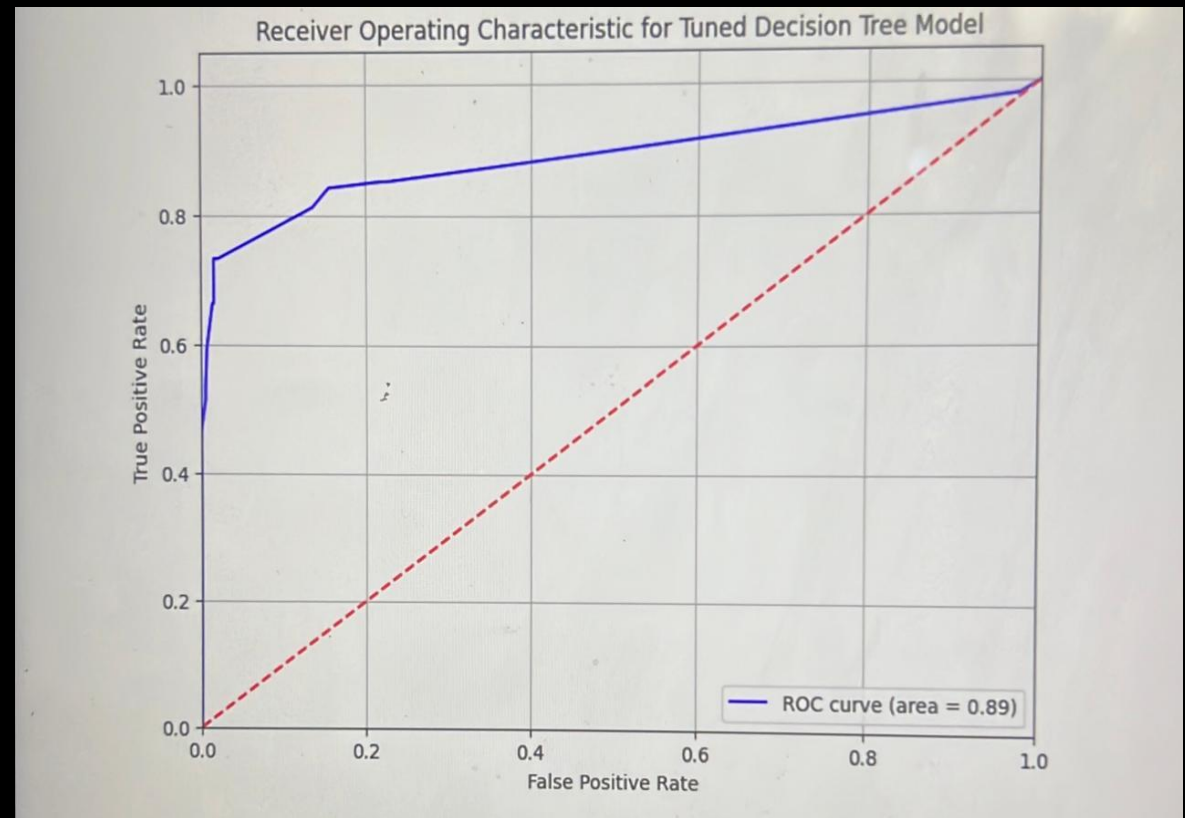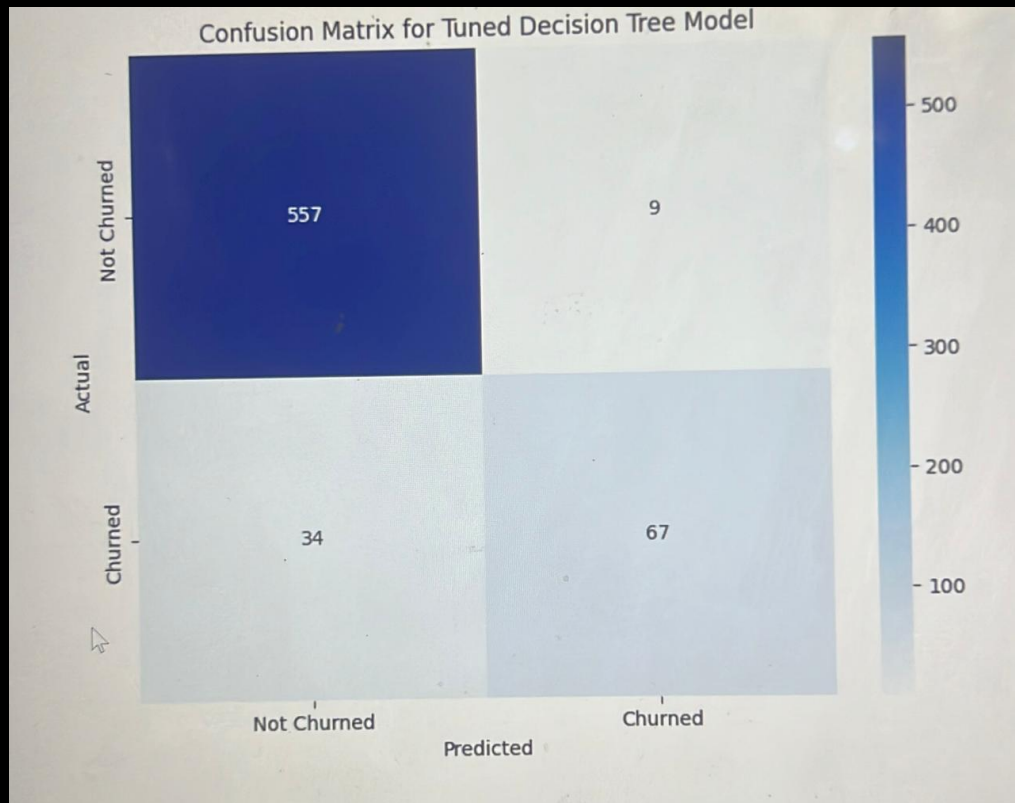
LOGISTIC REGRESION

DECISION TREE MODEL

TUNED DECISION TREE MODEL

2/22/2025

SLIDE 7: KEY FINDINGS

CHURN RATE: 6%

TOP PREDICTORS: CUSTOMER SERVICE CALLS, MONTHLY CHARGES, CONTRACT TYPE.

MODEL ACCURACY: TUNED DECISION TREE PERFORMED BEST AT 94%.

SLIDE 8: BUSINESS RECOMMENDATIONS

- Reduce churn by:

  Offering discounts to high-risk customers.

  Improving customer service responsiveness.

  Creating longer-term contract incentives.

SLIDE 9: NEXT STEPS

Implement churn prevention strategies.

Monitor new customer churn trends.

Explore more advanced AI models for further improvements.

SLIDE 10: THANK YOU

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Questions? Open for discussion!