Predicting Customer Churn at SyriaTel

🎯 Business Goal

Objective: Predict which SyriaTel customers are at risk of churning.

Why it matters: Customer acquisition is expensive — reducing churn directly improves profit and customer lifetime value.

What We Did

01 Analysed historical customer data from SyriaTel (3,333 records) using Python.

02 Built machine learning models to classify customers as “Churn” or “No Churn.”

03 Tuned models for performance, interpretability, and business value.

📈 Model Performance

Best model: Decision Tree (after tuning).

Accuracy: 93.5%

Recall on churners: 70%

F1-score: 77%

✅ **Why this is good:** The model balances precision and recall, meaning it finds most churners while minimizing false alarms.

🔑 Key Drivers of Churn

1. Total Day Minutes — Heavy daytime users are more likely to churn.
2. Customer Service Calls — High call volume = dissatisfaction.
3. International Plan — Those with or without it show different churn patterns.
4. Evening Minutes / Charges — Usage patterns signal switching behaviour.

➡️ Interpretation: Usage behaviour and service quality are strong churn indicators.

Business Recommendations

Flag high-risk users

Targeted retention

Use model predictions

Test retention campaigns

What’s Next

Deploy the model into production or internal dashboard.

Monitor performance monthly to ensure reliability.

Test ROI of targeted campaigns on predicted churners.

Expand model: Include more customer data (e.g., payment history, satisfaction surveys).

Thanks!