

The background is a dark blue field filled with abstract digital imagery. On the left, a bright blue and yellow light flare radiates outwards, with numerous thin, colorful lines (blue, green, yellow, orange, red, purple) trailing off to the right. Scattered throughout the background are strings of binary code (0s and 1s) in various colors like cyan, magenta, and yellow. On the right side, a portion of a human hand is visible, with fingers slightly curled as if interacting with a digital interface.

SyriaTel Customer Churn Prediction

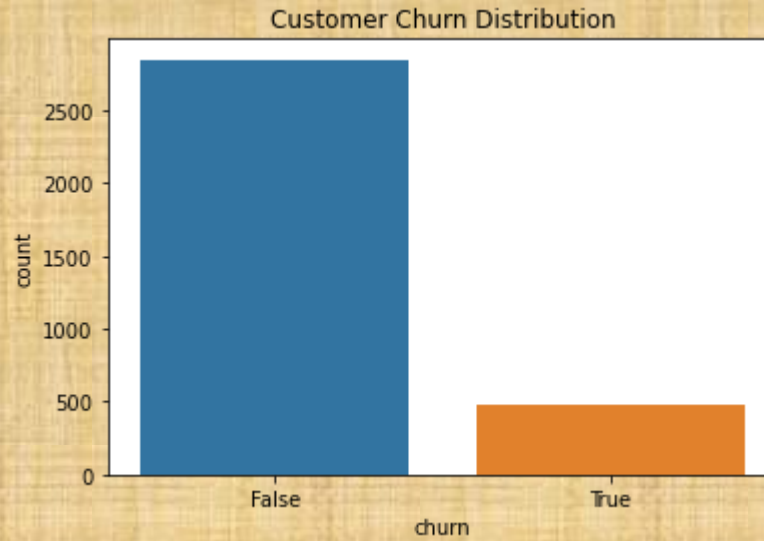
A Data Science Classification Project

Project Overview

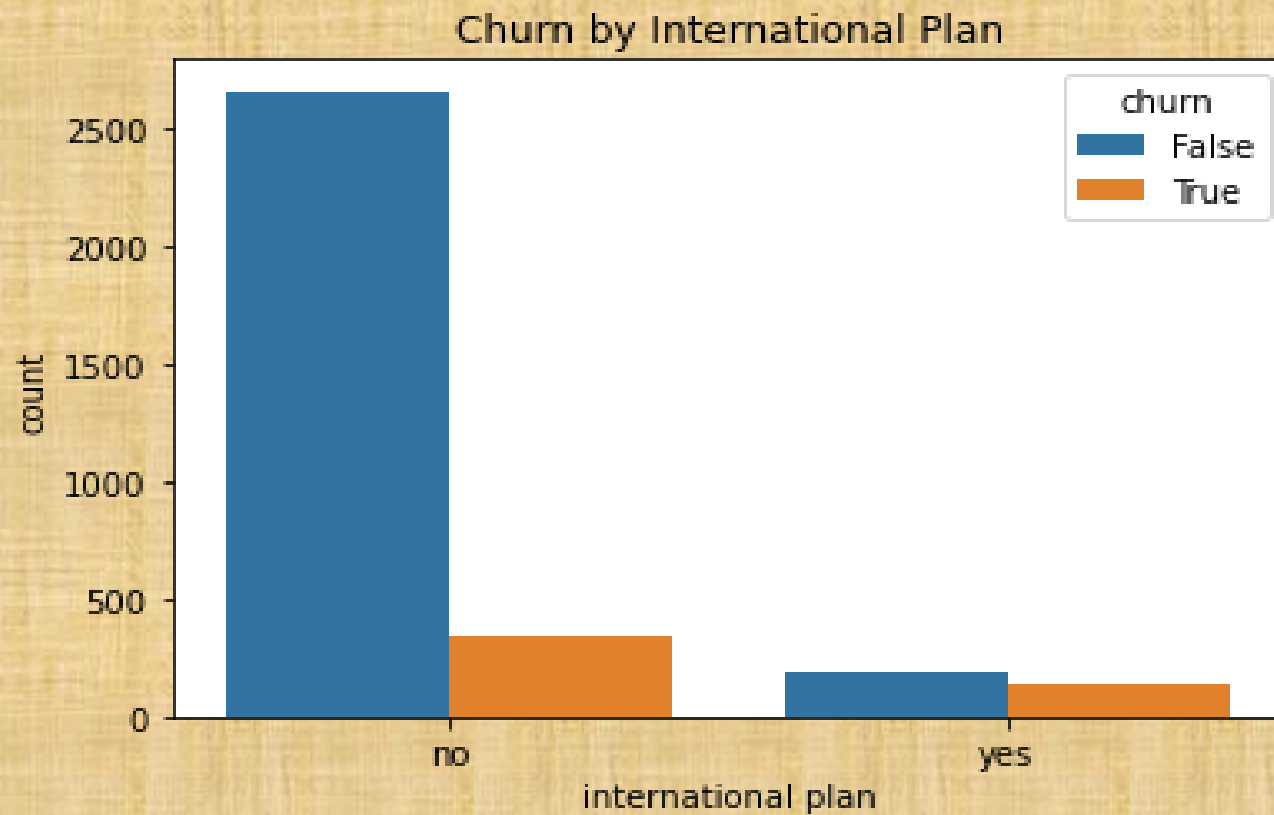
- Business Context: SyriaTel wants to reduce customer churn.
- Objective: Build a model to predict churn using customer usage data.
- Outcome: Help SyriaTel take proactive action to retain customers.

- Majority of customers did not churn.
- High frequency of 3-4 customer service calls.
- Fewer customers on international or voicemail plans.

Univariate Analysis

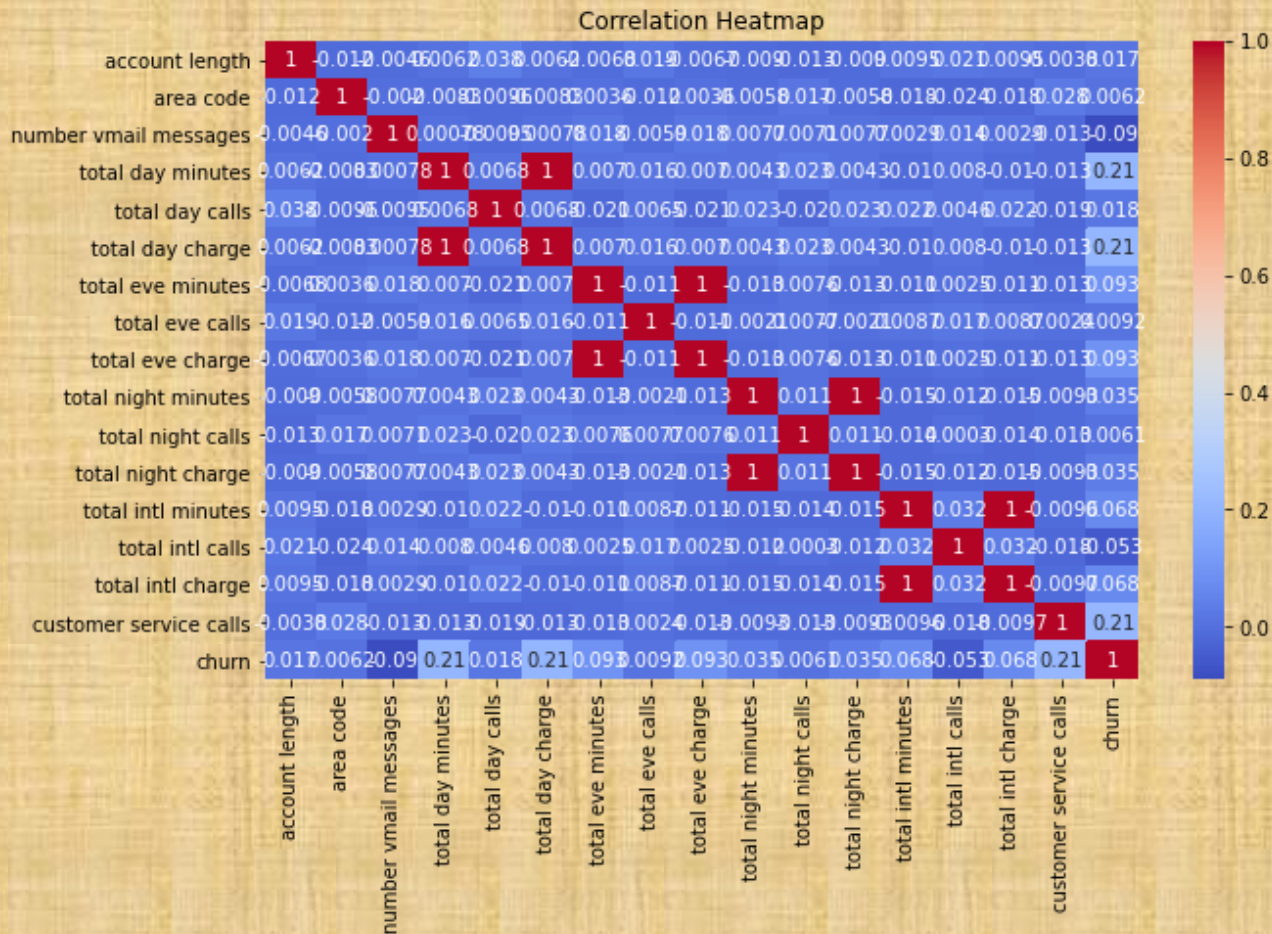


Bivariate Analysis



- Customers with international plans churn more often.
- More service calls correlate with higher churn.
- Charges and minutes are strong indicators.

Multivariate Analysis



- Correlation between minutes and charges.
- Pairplot shows clear separation in churned users based on service calls and total day minutes.

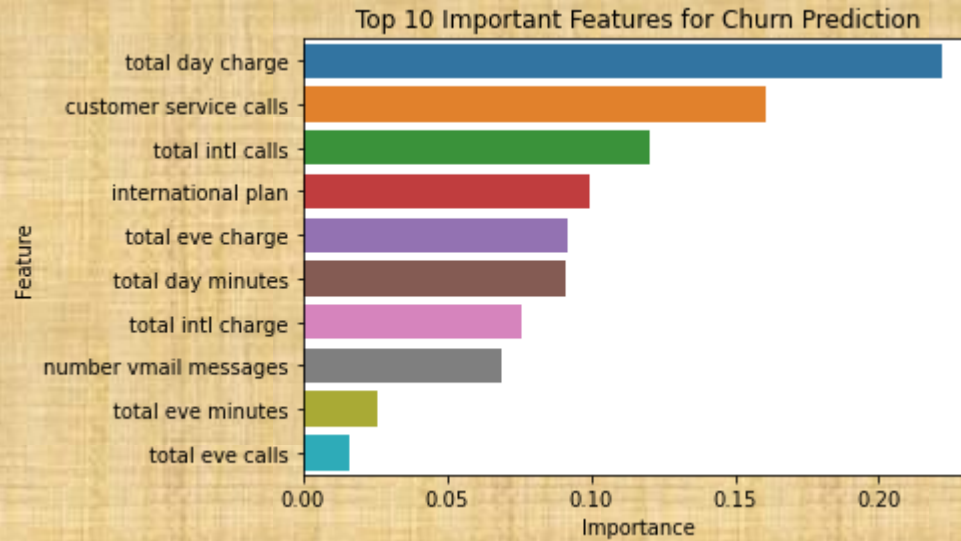
Modeling Approach

- Baseline: Logistic Regression
- Tuned Model: Decision Tree Classifier
- Evaluation: Confusion Matrix, Precision, Recall, F1 Score
- Train-Test Split: 70/30

Model Results

- Logistic Regression: Balanced but basic.
- Tuned Decision Tree: Higher recall and better at capturing churn cases.
- Key Features: Customer service calls, Total day minutes, International Plan

Feature Importance



Feature Importance

Top Predictive Features:

- Customer service calls
- Total day minutes
- International plan
- These features can guide intervention strategies.

Business Recommendations

- Monitor frequent callers for dissatisfaction.
- Improve international plan offerings.
- Provide loyalty incentives to high-usage customers.
- Personalize retention campaigns.

Conclusion

- Predictive modeling can identify at-risk customers.
- Decision Tree model provides interpretable and actionable insights.
- SyriaTel can use this to reduce churn and retain revenue.

Thank You!

- Questions? Let's connect.
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