PREDICTING CUSTOMER CHURN FOR SYRIATEL

OVERVIEW

- Objective: The goal of this project was to predict customer churn for SyriaTel, a telecommunications company. By identifying customers who are likely to leave, SyriaTel can take proactive steps to retain them

- Importance: Reducing Churn is crucial for maintaining revenue and growth. Retaining customers is often more cost-effective than acquiring new ones.

BUSINESS UNDERSTANDING

Customer Churn refers to the loss of clients or customers. In the competitive telecom industry, understanding why customers leave and addressing those reasons is vital for business success.

DATA UNDERSTANDING

We used a dataset containing information about customer demographics, account details, and service usage. This data helps us understand the patterns and behaviors of customers who stay versus those who leave.

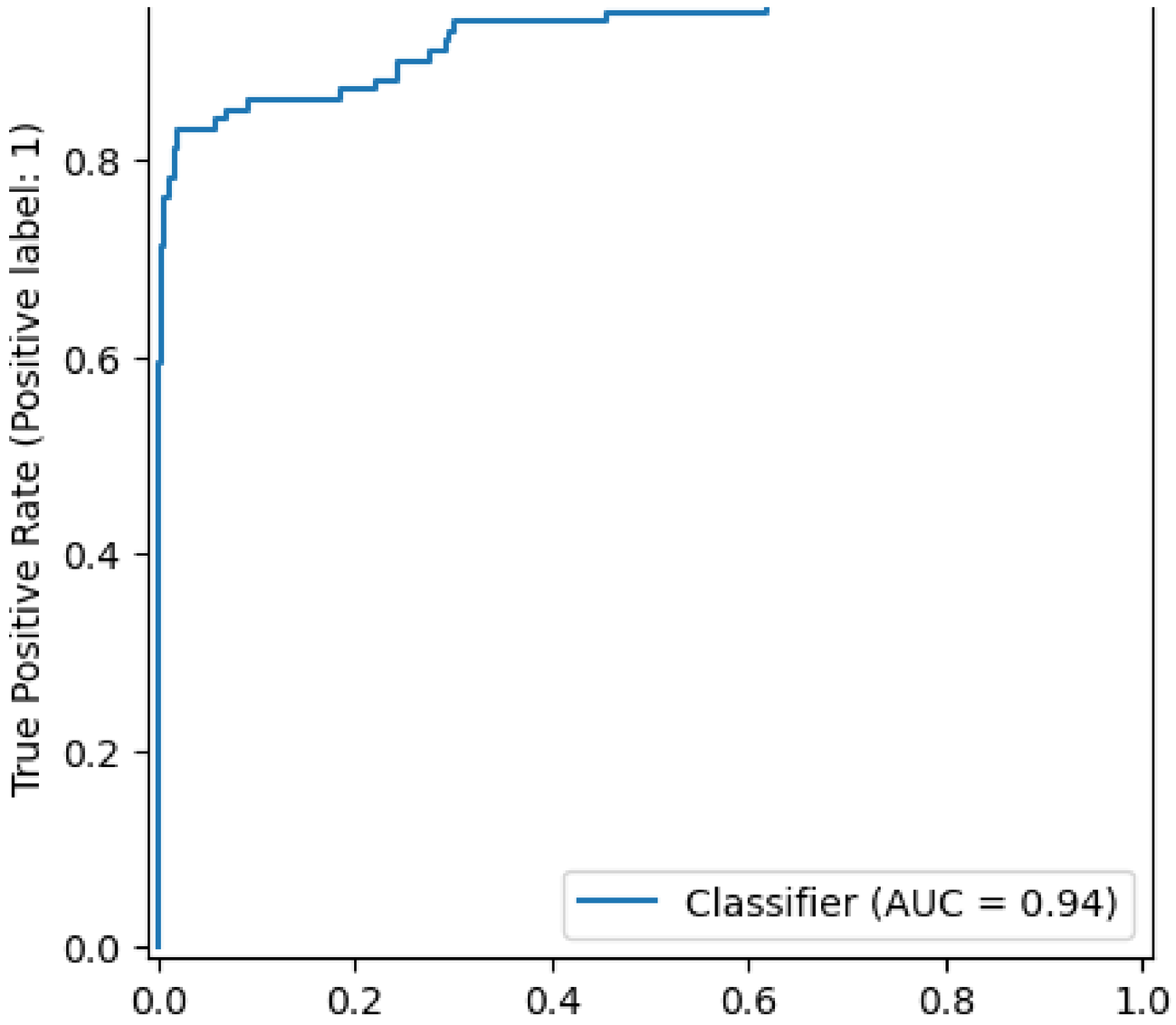
MODELLING

- Approach: We developed three predictive models to identify customers at risk of churning:
1. Logistic Regression Model: A simple statistical model used as a baseline.
2. Random Forest Model: A more complex model that uses multiple decision trees to improve prediction accuracy.
3. Gradient Boosting Model: An advanced model that builds on previous models' errors to improve performance.
- Purpose: By using different models, we ensure the predictions are reliable and select the best-performing one.

EVALUATION

Metrics Used: To evaluate the models, we used the following metrics:

- Accuracy: Measures how often the model correctly predicts churn or non-churn.
- Precision: Focuses on how many of the predicted churns were actual churns.
- Recall: Indicates how well the model identifies actual churn cases.
- F1 Score: A balance between precision and recall.
- AUC (Area Under the Curve): Measures the overall ability of the model to distinguish between churn and non-churn cases.



RESULTS

- The results are based on the best model due to its superior performance compared to the other models.
- Accuracy: 96% - The model correctly predicts whether a customer will churn or not 96% of the time.
- Precision: 89% - When the model predicts a customer will churn, it is correct 89% of the time.
- Recall: 82% - The model identifies 82% of actual churn cases.
- F1 Score: 85% - The balance between precision and recall is high, indicating reliable performance.
- AUC: 94% - The model has a strong ability to distinguish between churn and non-churn cases.

WHAT THESE RESULTS MEAN

- High Accuracy: The model is highly reliable in predicting churn, ensuring that most predictions are correct.
- Strong Precision: The model minimizes false alarms, ensuring that most predicted churns are actual churns.
- Good Recall: The model effectively identifies most customers who will churn, allowing for timely intervention.
- Balanced F1 Score: The model maintains a good balance between identifying true churns and minimizing false positives.
- Excellent AUC: The model has excellent discriminative power, making it highly effective in separating churners from non-churners.

RECOMMENDATIONS

- Focus on customers with high churn risk by offering personalized retention strategies such as discounts, better service plans, or loyalty programs.
- Address factors contributing to churn, like frequent customer service calls, which indicate dissatisfaction.

NEXT STEP

- Deployment: Integrate the Gradient Boosting model into SyriaTel's customer management system to monitor and predict churn in real-time.
- Continuous Improvement: Regularly update the model with new data to maintain accuracy and adapt to changing customer behaviors.
- Customer Engagement: Develop targeted strategies and personalized offers to improve customer satisfaction and reduce churn rates.

THANK YOU

Thank you for your attention and participation in this presentation. By leveraging this predictive model, SyriaTel can significantly reduce customer churn and improve overall business performance.

Should you have any questions or require further information, please feel free to reach out:

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