



CUSTOMER CHURN PREDICTION

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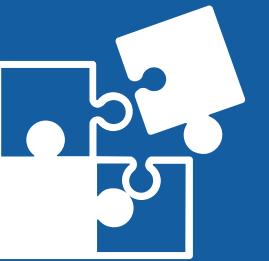
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BUSINESS PROBLEM



SyriaTel is tackling high customer churn rates. To maintain profitability and competitiveness, it's crucial to pinpoint why customers leave and implement proactive retention strategies.

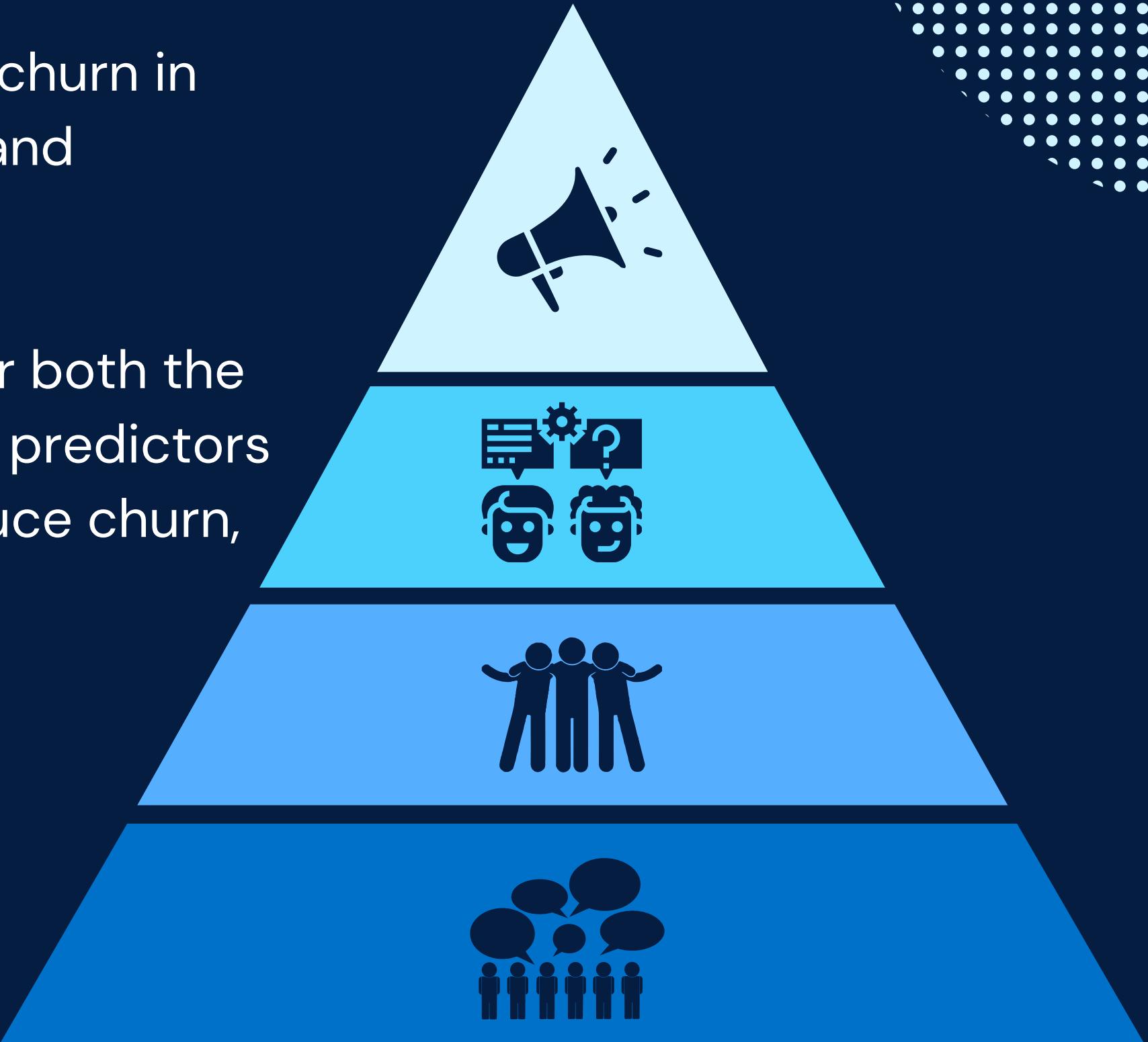
Developing predictive models and actionable insights is vital to reducing churn, optimizing retention efforts, and boosting business performance.



BUSINESS UNDERSTANDING

This project tackles the global issue of customer churn in telecom. High churn rates challenge profitability and sustainability.

The SyriaTel Customer Churn project is crucial for both the company and its customers. By identifying churn predictors and deploying retention tactics, SyriaTel can reduce churn, boost satisfaction, and stay competitive.





BUSINESS QUESTIONS

- What are the key predictors of churn within SyriaTel's subscriber base?
- What methods will be used to evaluate the effectiveness of implemented strategies in reducing churn rates?
- What targeted initiatives can be employed to enhance customer experiences and satisfaction?

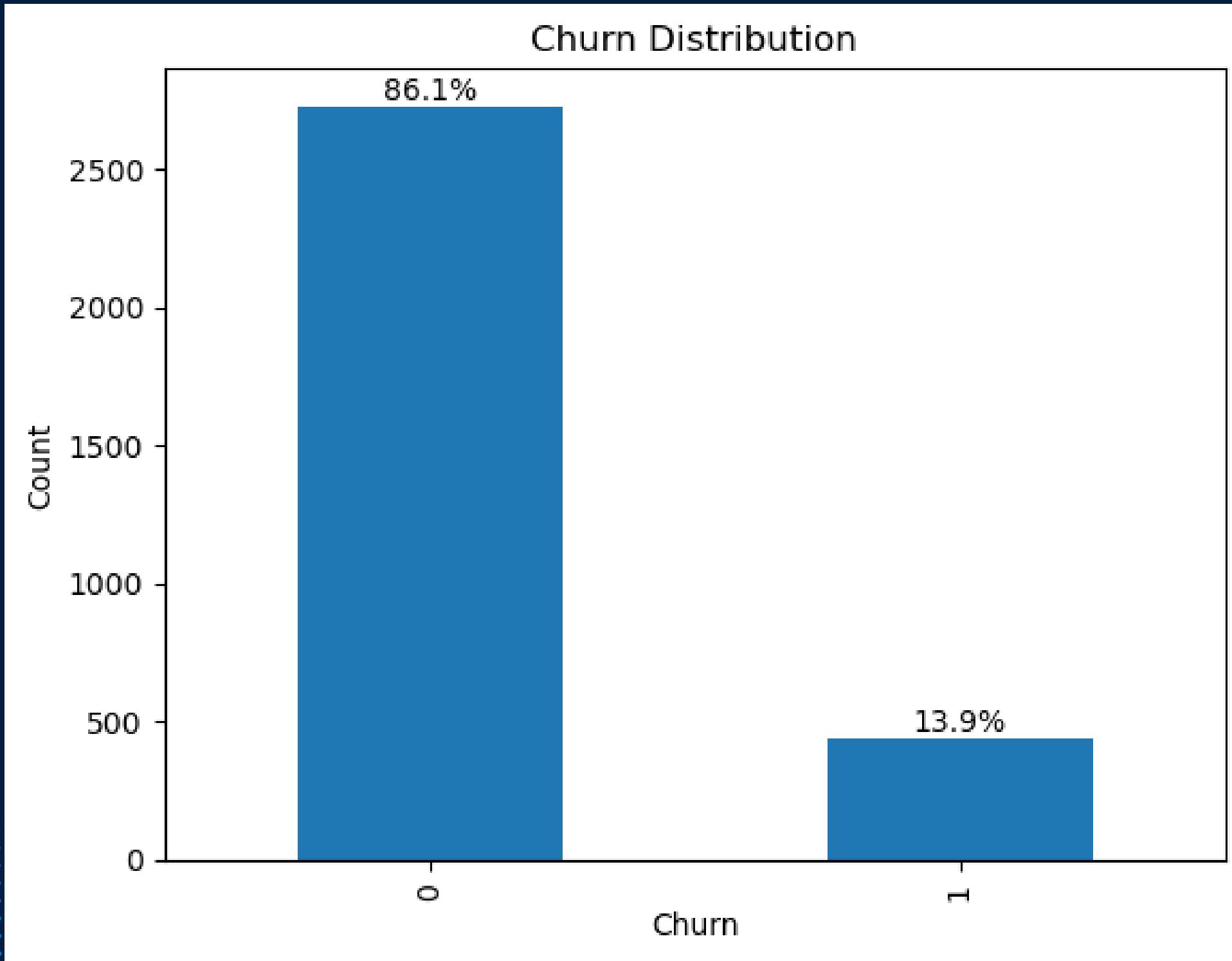


DATA UNDERSTANDING

- The dataset was obtained from Kaggle and it comprises 3333 rows and 21 columns.
- The dataset for the SyriaTel Customer Churn project comprises several features that provide valuable insights into customer behavior and engagement with SyriaTel's telecommunications services.

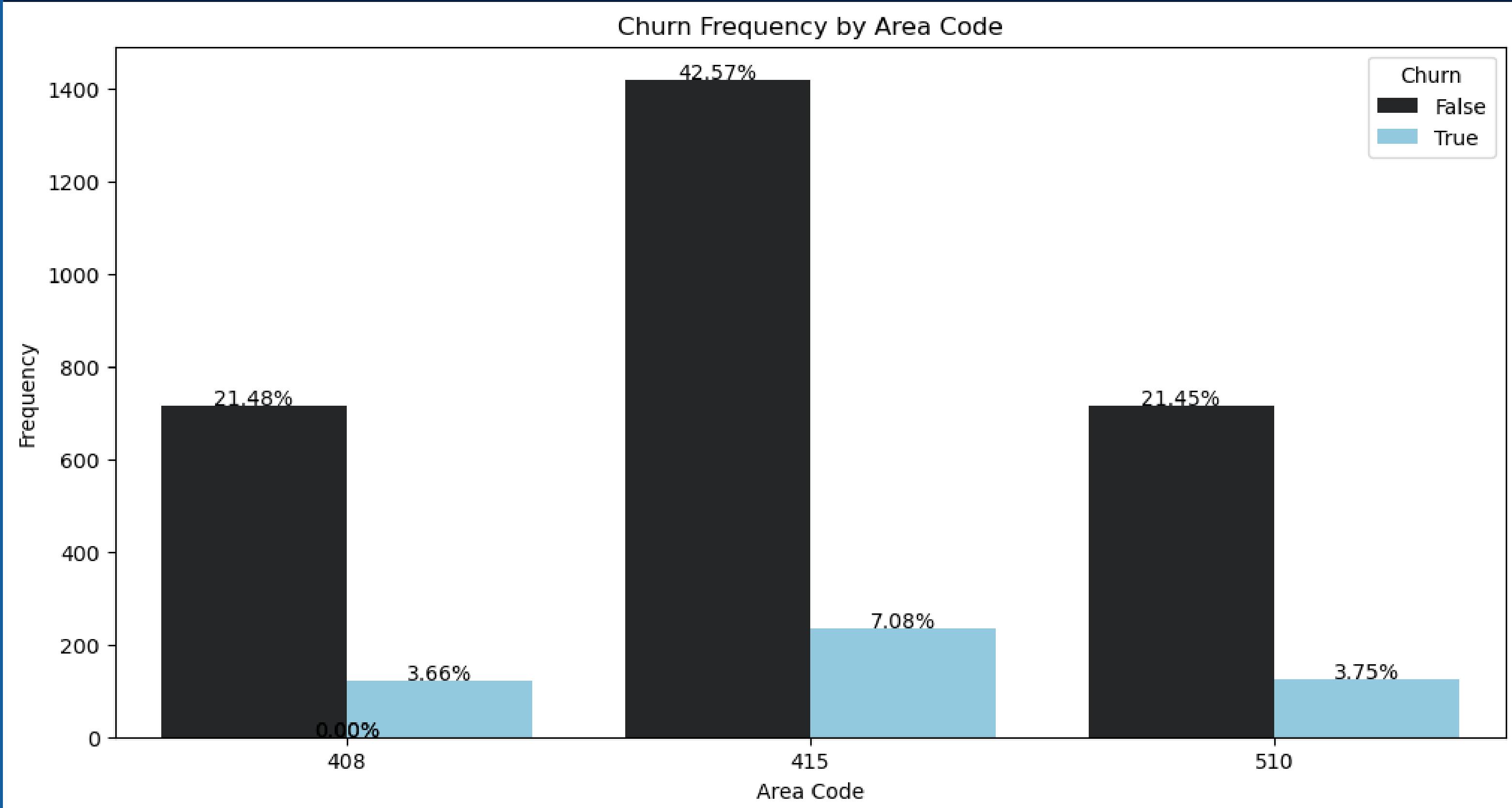


Data Analysis



- There are 2850 instances of non-churned customers and 483 instances of churned customers, showing a class imbalance with more non-churned instances.
- Recognizing this is vital for building effective predictive models or strategies to tackle churn. It underscores the need to concentrate on retaining customers to decrease churn rates.

Data Analysis



MODELING

The project employs a comprehensive modeling approach utilizing four distinct techniques to explore and analyze the dataset from various angles, aiming to derive robust and accurate predictive insights.



Logistic Regression



Decision Trees

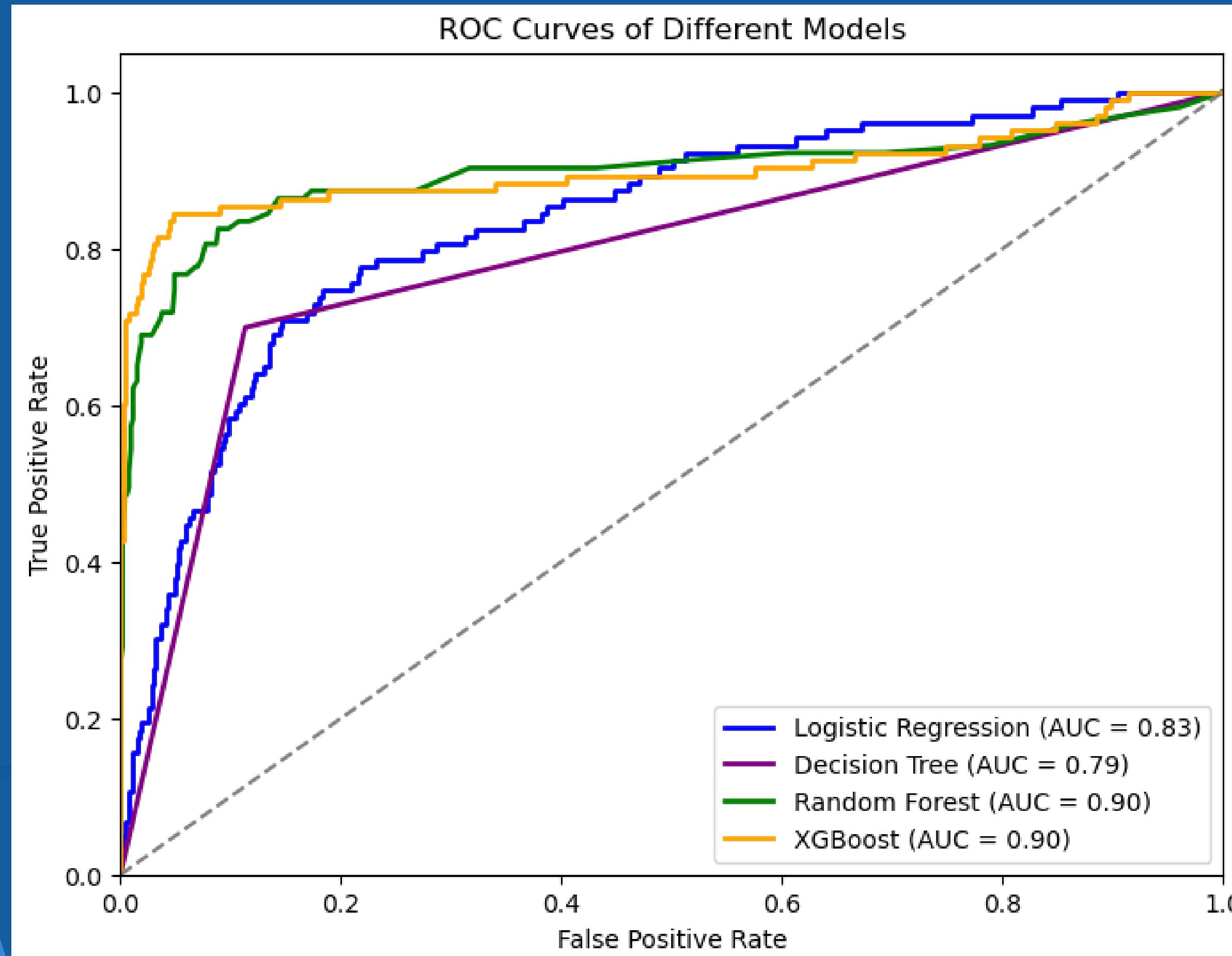


Random Forests



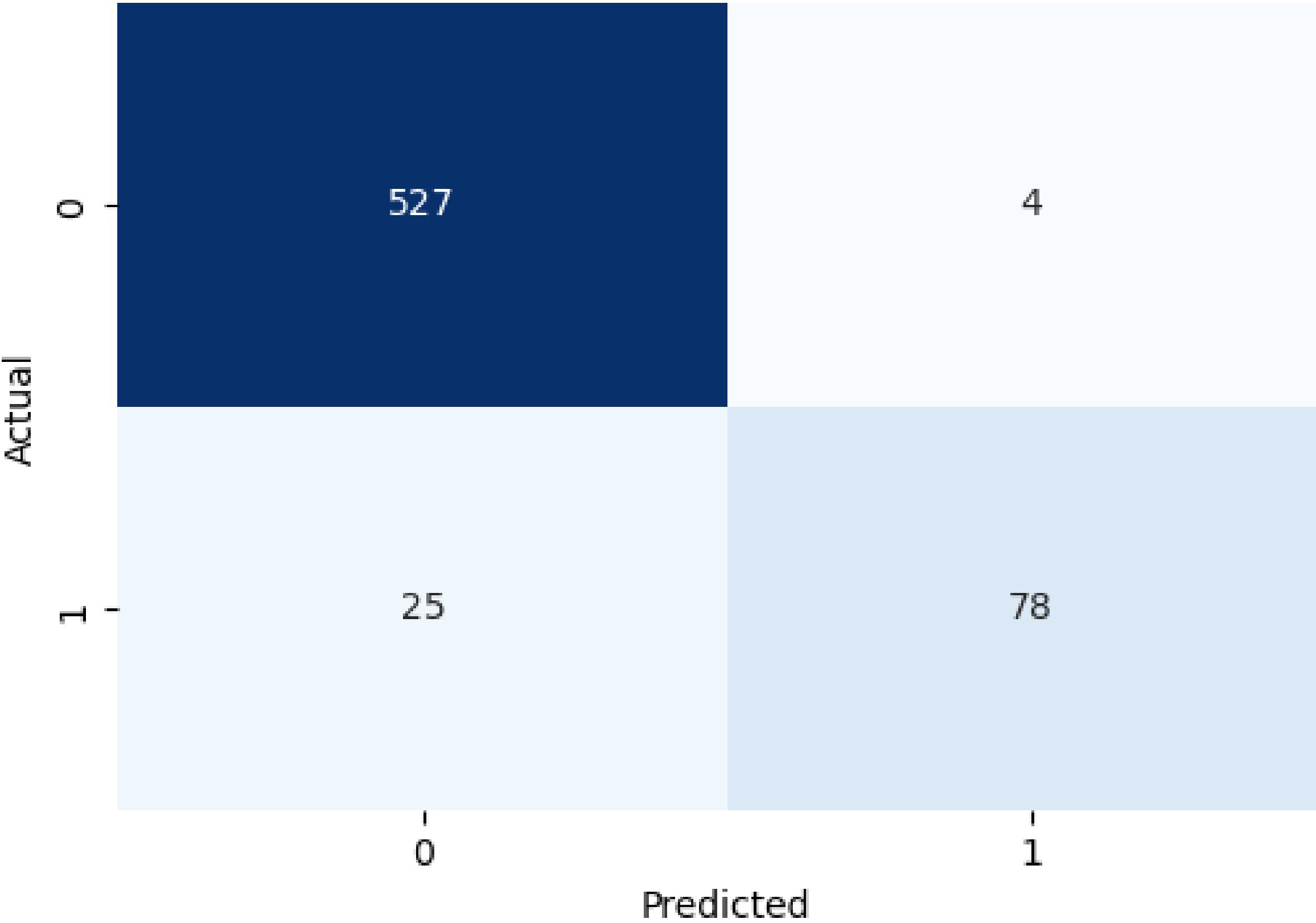
XGBoost

MODEL PERFORMANCE



BEST PERFORMING MODEL

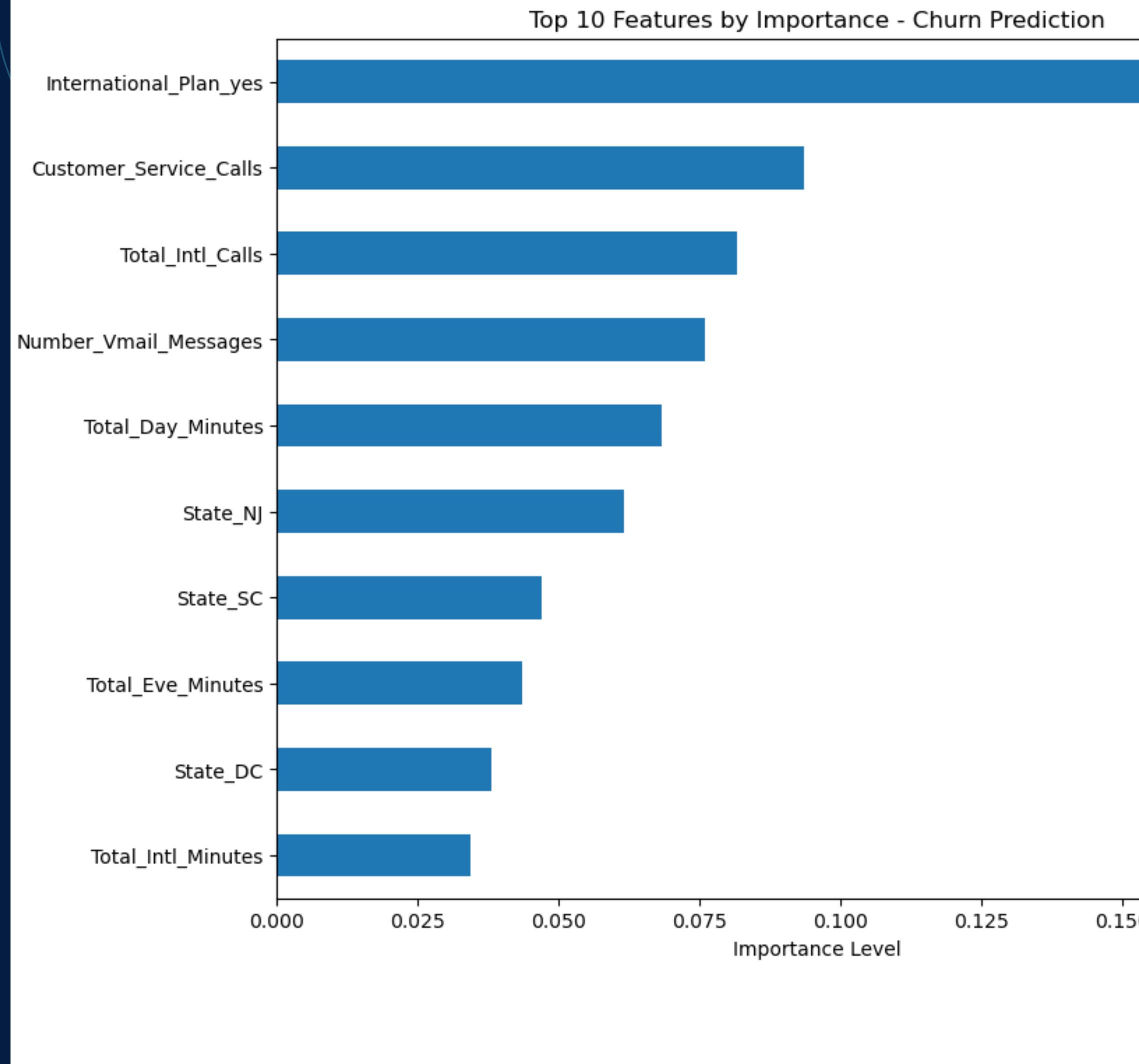
Confusion Matrix (GridSearchCV)



- Training Accuracy (99.29%) and Validation Accuracy (95.43%): The gap between these values has narrowed compared to before (100% vs 94.32%).
- This indicates the model is less likely to overfit while still performing well on the training data.

Feature Importance

- This analysis suggests that an international plan, customer service interactions, call usage patterns and geographic location play significant roles in predicting customer churn for SyriaTel.
- Understanding and addressing these factors could help the company implement targeted retention strategies and improve overall customer satisfaction and loyalty.





RECOMMENDATIONS

Enhance Customer Service

Empower agents to resolve issues effectively and address concerns of frequent callers proactively

Address International Calling Needs

Offer competitive rates & bundles for frequent callers and improve call quality by investing in better connections for clear calls

Cater to Daytime Callers:

Create bundles combining daytime minutes with other services and Off-peak promotions by encouraging calls during less busy times with discounts

CONCLUSION

SyriaTel has the potential to improve customer satisfaction and reduce churn by focusing on key areas: international calling experience, customer service effectiveness, competitive pricing strategies, increased customer engagement, and catering to daytime callers.

By implementing targeted initiatives like analyzing customer needs, offering competitive plans, and improving communication, SyriaTel can establish itself as the go-to choice for international calling.





Thank's For Watching

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