Phase 3 Project

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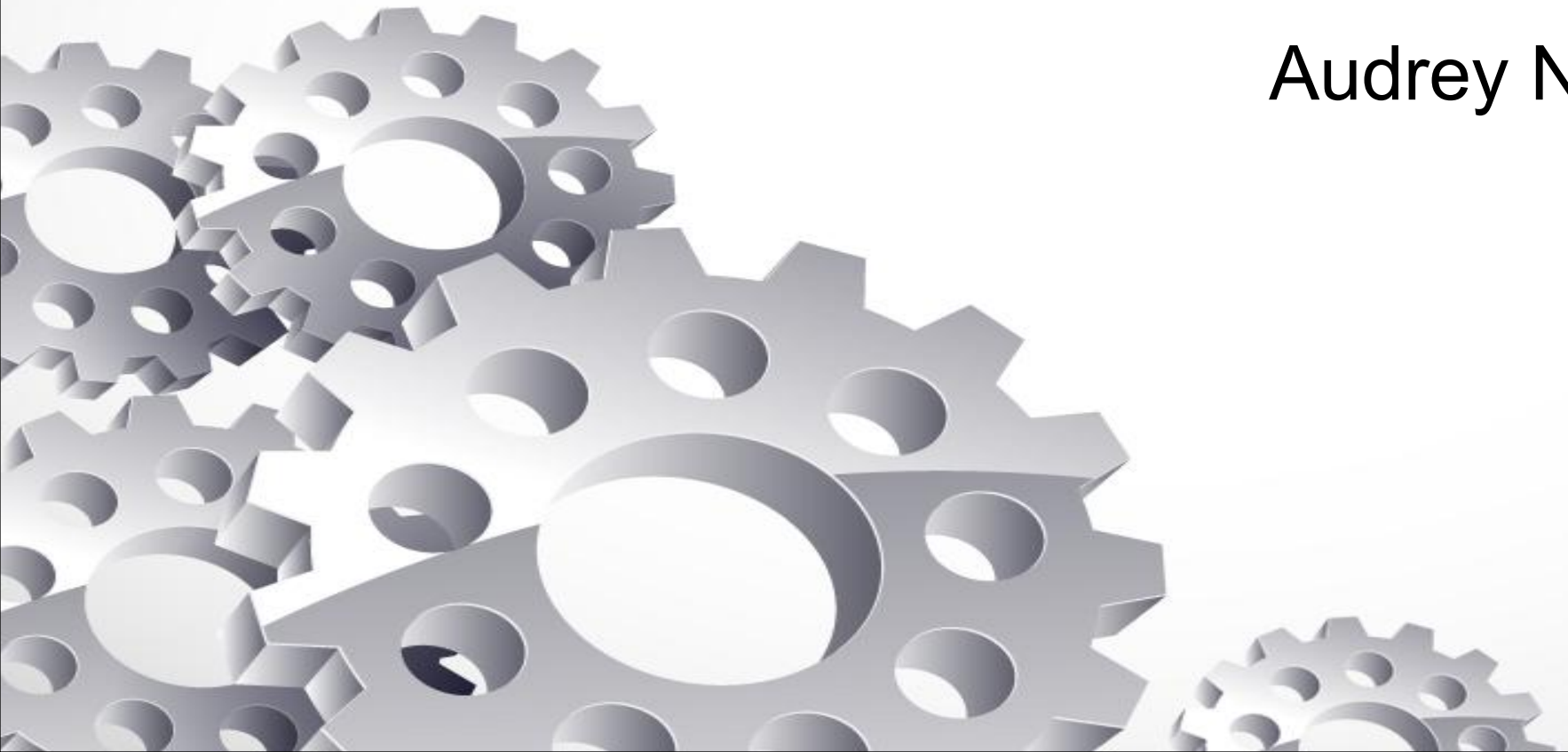


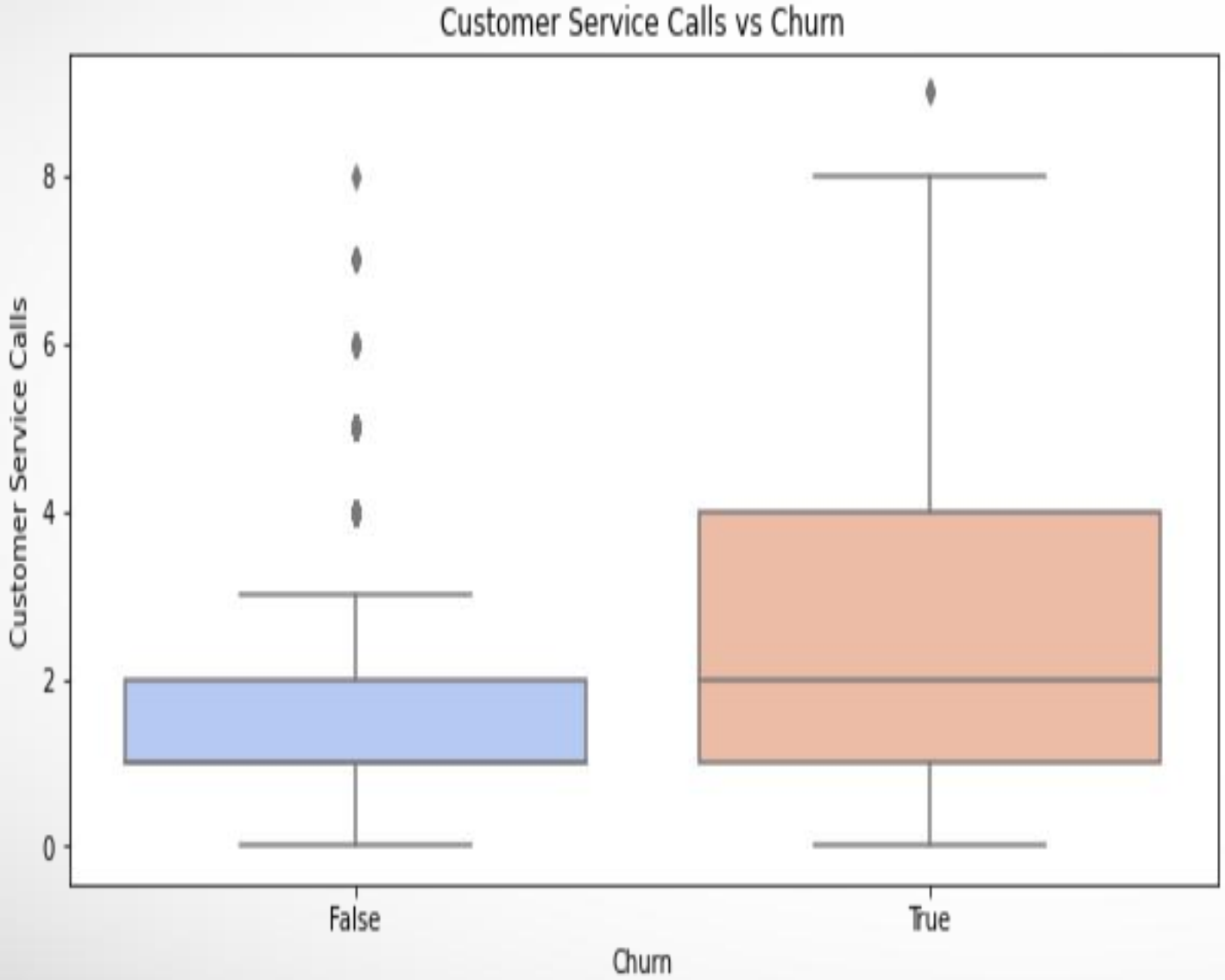
Summary

- The project aims to analyze customer churn in a telecommunications company by identifying key factors influencing churn and developing machine learning models to predict at-risk customers. By understanding churn patterns, the company can implement effective retention strategies.

Data and Methods

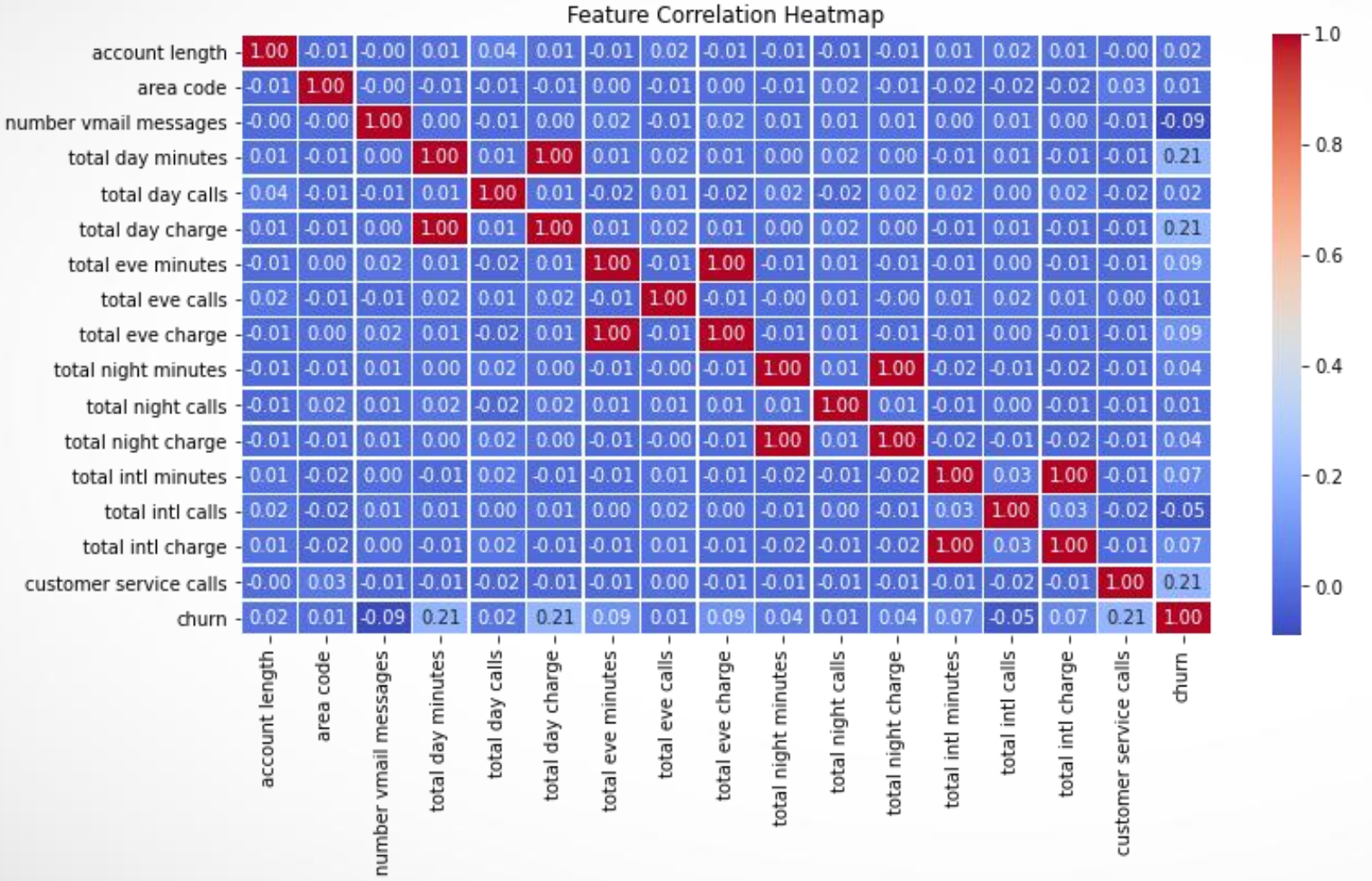
- Processed customer data from SyriaTel.csv, removing unnecessary columns and encoding categorical features.
- Standardized numerical features for improved model performance.

Results



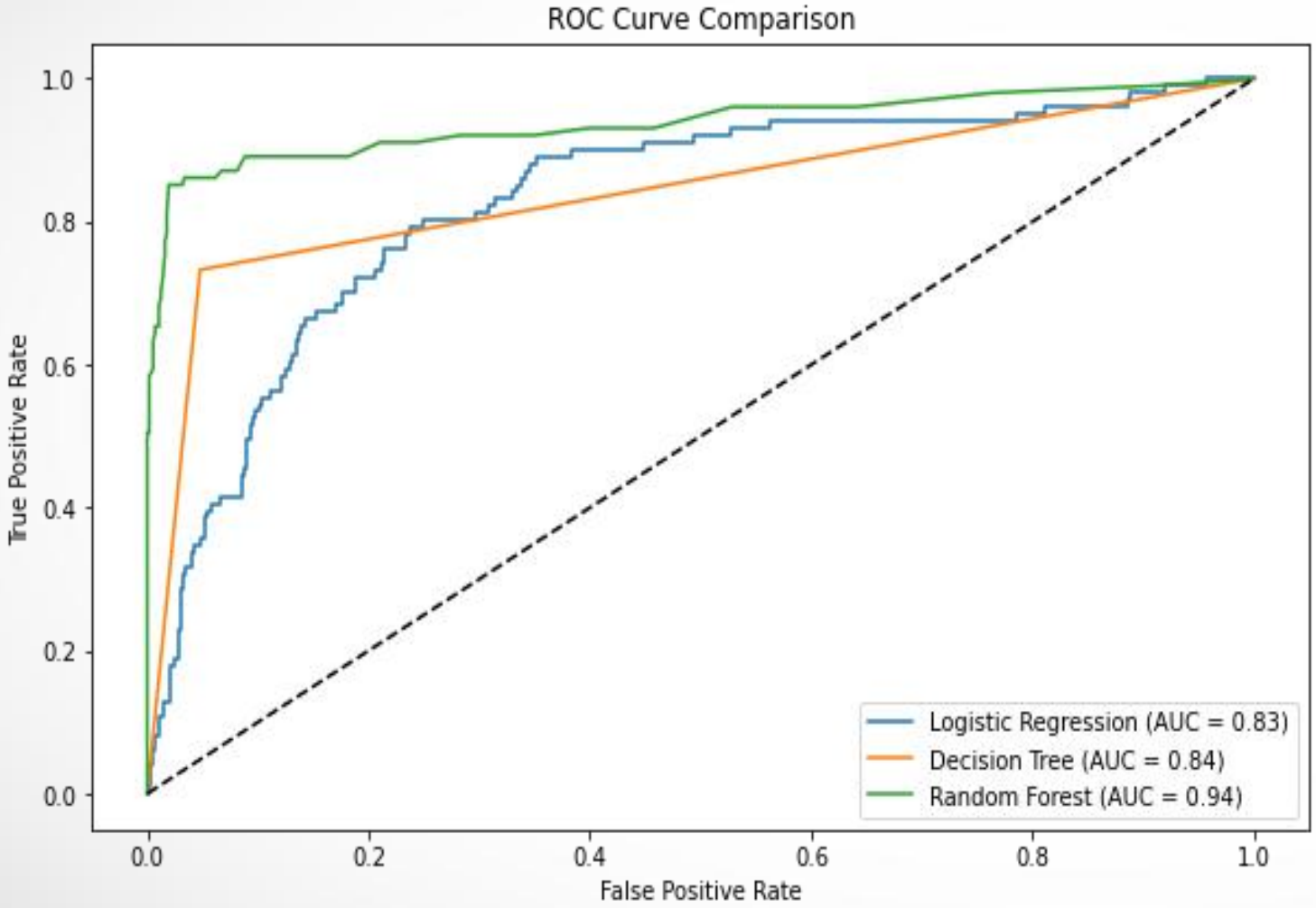
- Frequent customer service calls strongly correlate with higher churn rates.

Results



- Customers with high service usage (e.g., international calls, total call minutes) are more likely to churn.

Results



- Random Forest performed the best, achieving the highest accuracy and AUC score.

Recommendations

- Improve Customer Service: Reduce churn by addressing customer concerns proactively.
- Target High-Risk Customers: Use predictive models to identify and engage at-risk customers.
- Personalized Retention Strategies: Offer tailored discounts, loyalty programs, and proactive support to prevent churn.