WINCOR Customer Churn Analysis

Goal of the Analysis:

 Investigate why certain customers decide to leave the service, uncovering the key factors and patterns behind their decisions.

 Determine the most effective machine learning model and its hyperparameters for accurately predicting customer churn.

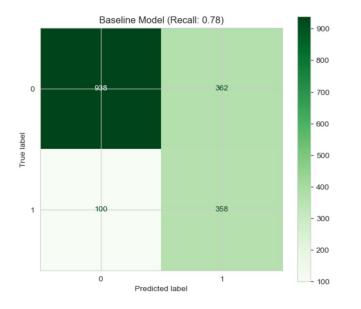
 Develop actionable strategies to prevent customer churn based on insights gained, enhancing customer satisfaction and loyalty.

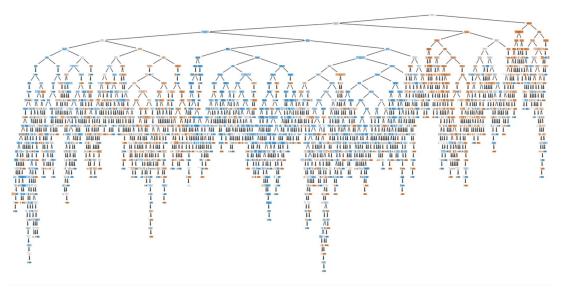
Data explanation

- WINCOR Customer Churn Dataset
- Contains 7043 rows (customers) and 21 columns (features).
- Target variable: "Churn" column.
- Imbalanced data: 5163 non-churning, 1869 churning customers.

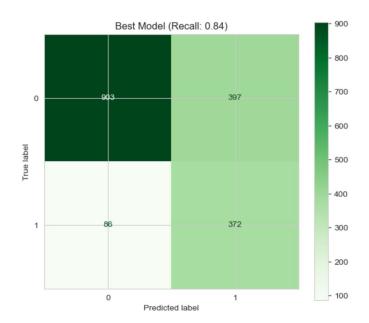
Baseline Models

- The Baseline Logistic Regression model (Recall: 0.78)
- The Baseline Decision Tree model (Recall: 0.54)

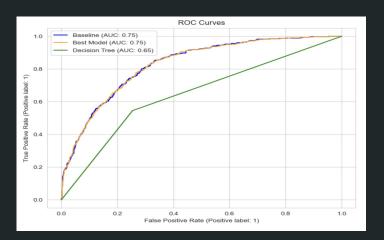




Best model Performance



 Logistic Regression model after Hyper tuning (Recall: 0.81)

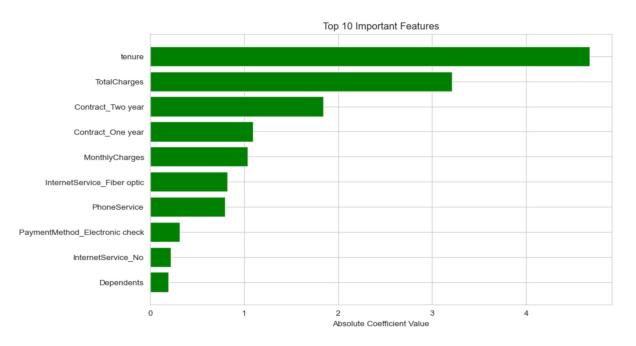


 Comparison of ROC curves for Churn Prediction Models

```
logreg_best = LogisticRegression(
    C=100,
    tol=0.1,
    penalty='l2',
    solver= 'saga',
    max_iter=100,
    random_state=42
)
```

The best Hyperparameters for the model

Key features and their impact on the Churn



- Tenure and Total Charges have the most significant impact
- Long-term contracts and phone service reduce Churn
- Higher monthly charges increase Churn

Business Recommendations:

Promote Longer Contracts:
 Encourage longer-term contracts
 with incentives to reduce churn.

 Review Pricing: Analyze pricing, especially for high monthly charges, and offer competitive options.

 Diversify Payment Methods: Provide multiple, convenient payment options to reduce churn.

Future work

- Personalized Interventions: Develop models to predict churn and suggest personalized strategies for retaining customers.
- Sentiment Analysis: Incorporate sentiment analysis to understand why customers churn based on their feedback.
- Leverage Advanced Data: Integrate diverse data sources for a comprehensive view of customer behavior and external factors.

Contacts

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