Customer Churn Analysis – Final Recommendations

Introduction:

The telecom industry faces a significant challenge with customer churn, which affects revenue and growth. This project aims to predict customer churn using machine learning and provide actionable strategies to retain high-value customers.

Objective:

- Identify customers likely to churn
- Understand key factors influencing churn
- Suggest strategies for retention

Key Findings:

Churn Distribution

- Out of **7043 customers**, a proportion have churned while the majority are retained.

Top Features Driving Churn (from SHAP/ELI5):

1. **Monthly Charges:** Higher charges → higher probability of churn
2. **Tenure:** Shorter tenure → higher churn risk
3. **Contract Type:** Month-to-month contracts → higher churn
4. **Payment Method & Service Usage:** Certain payment methods or lack of services influence churn

Customer Segmentation:

- **Loyal:** 4917 customers (low risk of churn)

- **At Risk:** 1362 customers (high churn probability)
- **Dormant:** 764 customers (medium churn probability)

Actionable Recommendations

At Risk Customers:

- Run personalized retention campaigns
- Offer targeted discounts or promotions
- Proactively contact customers via calls or messages

Dormant Customers:

- Launch engagement programs to increase usage
- Offer promotional packages or new services to re-engage

Loyal Customers:

- Reward programs to maintain satisfaction
- Upsell premium plans or add-on services
- Ensure continuous positive experience

Conclusion:

The Random Forest model, combined with explainability tools (SHAP/ELI5), effectively identifies churn-prone customers and their key drivers. By implementing targeted retention strategies, telecom companies can reduce churn, improve customer satisfaction, and increase revenue.