

1. Model Accuracy:

- ~74.7% overall.
- Appears good, but mainly reflects correct predictions for customers who **did not churn**.

2. Most Important Features:

- Customers' **Contract type, MonthlyCharges, Tenure, and PaperlessBilling** show clear differences between churned and retained customers.
- Customers with short-term contracts or high monthly charges are more likely to churn.

3. Recommendations to the Company:

- Focus retention efforts on **high-risk groups**: short-term contracts, high monthly bills, or customers with fewer services.
- Consider personalized offers or incentives to prevent churn in these segments.

4. Model Limitations:

- KNN struggles with **imbalanced classes** → only detects ~50% of churned customers.
- Doesn't provide feature importance quantitatively.
- Sensitive to scaling and noisy data.
- Accuracy can be misleading; better metrics are **Precision, Recall, F1-score** for churned class.