

Telecom Churn Prediction

By Ethan Huffman

Business Understanding

- Customer churn risk
- Retention-driven decisions
- Actionable predictions

Data Understanding

- Multiple data sources
- Customer behavior signals
- Data limitations
- Gradient Boosting Classifier
- Group of decision trees

Model

- Gradient Boosting Classifier
- Group of decision trees
- Churn Recall (91.6%)
- Overall Accuracy (57.4%)
- Churn Precision (36.6%)
- Recall Over Accuracy

Evaluation

- False negative 41
- False positive 780
- True negative 450
- True positive 657

Conclusion

- App <http://localhost:8501/>
- Business Impact
- Model Effectiveness
- Actionable Outputs

Citations

- IBM Telco Customer Churn Dataset
<https://www.kaggle.com/datasets/blastchar/telco-customer-churn>
- BigML Telecommunications Churn Dataset
<https://www.kaggle.com/datasets/mnassrib/telecom-churn-datasets>
- Streamlit App Inspiration Video https://youtu.be/ZZ4B0QUHuNc?si=9eAn2_0imufvIJL0
This video inspired the design and structure of the Streamlit churn prediction application included in this project.