

Telco Customer Churn Prediction

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Business Problem

- Telco would like to predict whether a customer has a high likelihood of dropping their services (Churn). Churn is considered customers who left in the last month.
- They would also like to know which customers they need to spend more resources on to keep and which ones need the most resources to retain.

Below are some measures that indicate a higher likelihood of churning based on past customer data.

- Service the customer uses (phone or internet)
- Payment Method
- Number of Additional Services Used





Summary

Churn rate is an important metric for all businesses. A higher churn rate leads to a greater loss in revenue. When a customer churns it means that they no longer use the company.

In this project we have created a model to predict whether a customer will churn and show what customers are at the highest risk of churning.

Features we will focus on include:

- Contract (type/length)
- Type of service provided
- Tenure of customer
- More customer data that will be impactful in smaller quantities



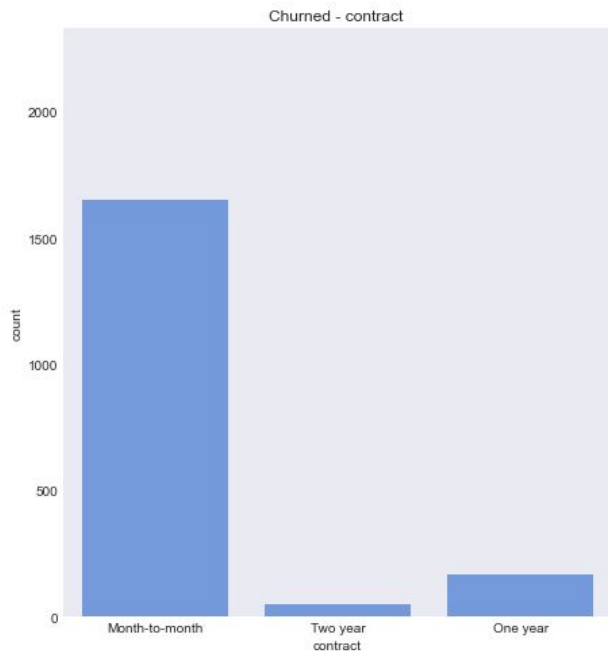
Outline

- Data
- EDA
- Methods
- Models
- Model Information
- Recommendations



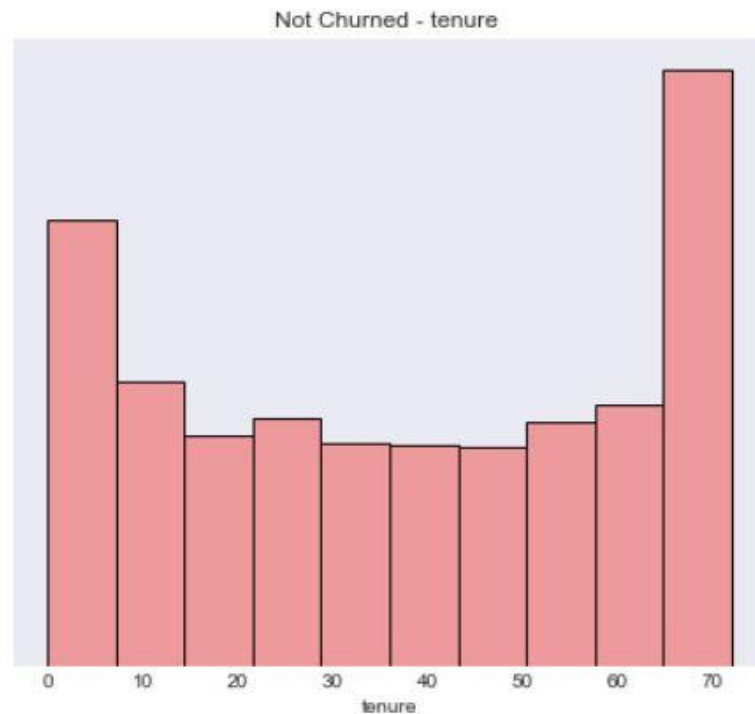
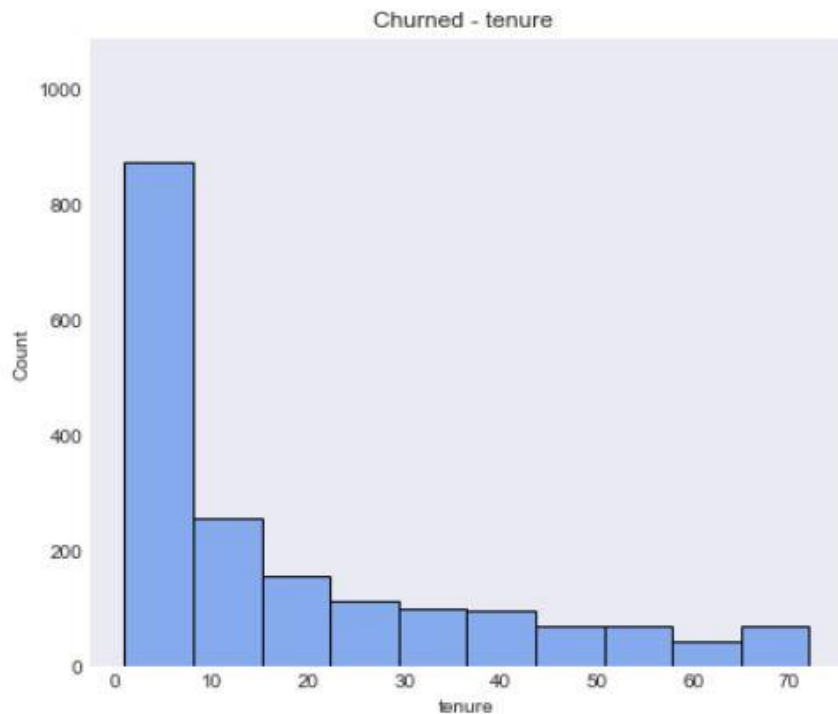
Data

- Predicting Customer Churn (leaving)
- Basic EDA and Feature Engineering
- Important relationships





Churn by Tenure



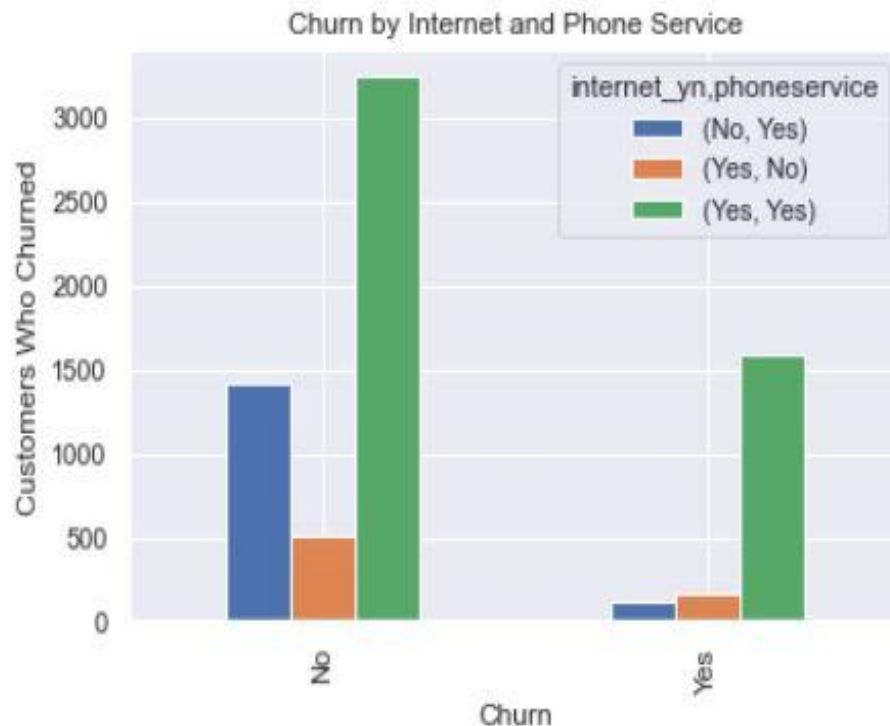


Churn by Main Service

Blue bar - Customer has only phone service from Telco

Orange bar - Customer has only internet service from Telco

Green bar - Customer has both phone and internet service from Telco



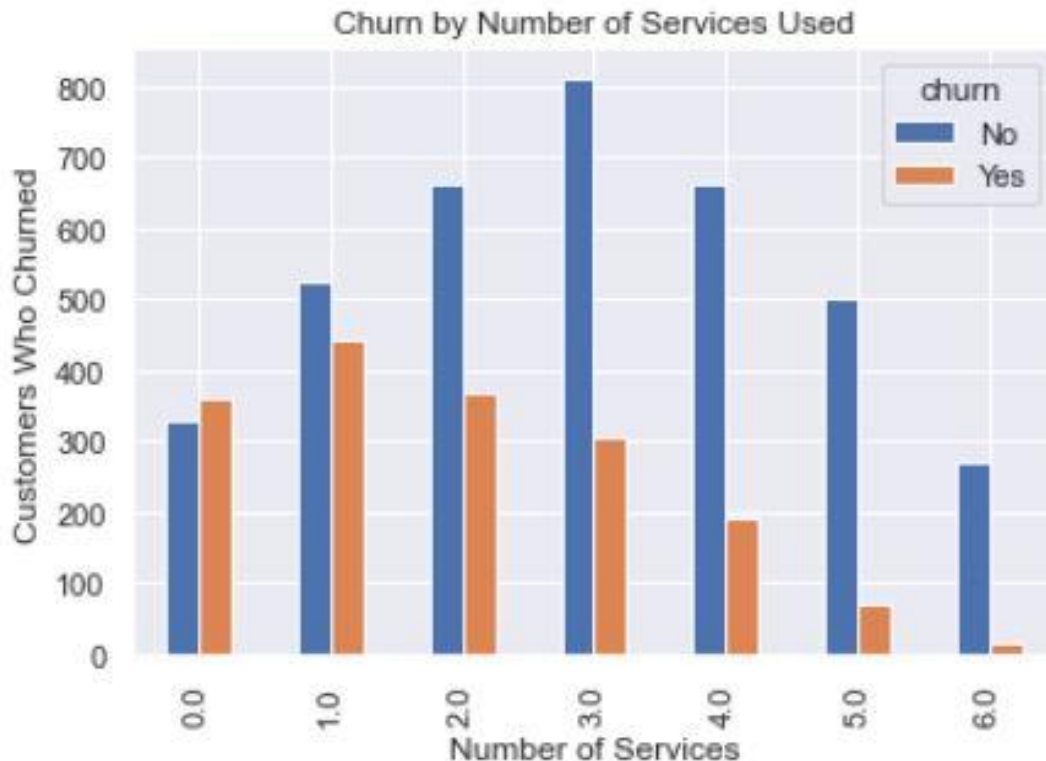


Churn Rate for Customers with Additional Services

Telco offers services in addition to just a phone line and internet connectability.

Other services provided include:

- Online Security
- Online Backup
- Device Protection
- Tech Support
- Streaming TV
- Streaming Movies

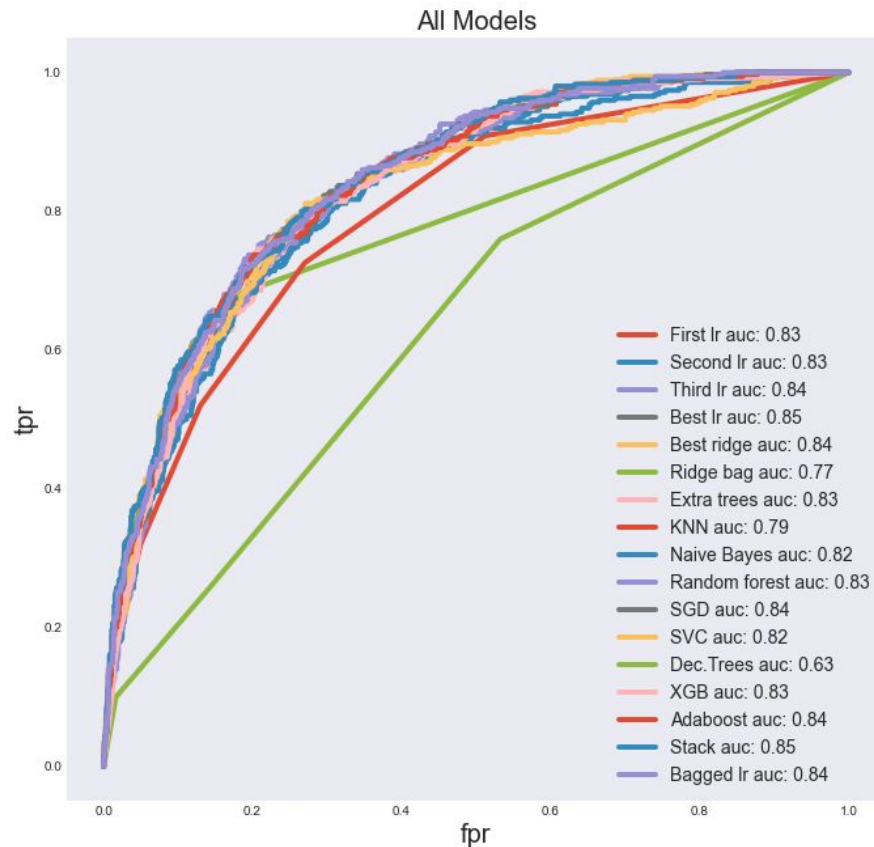
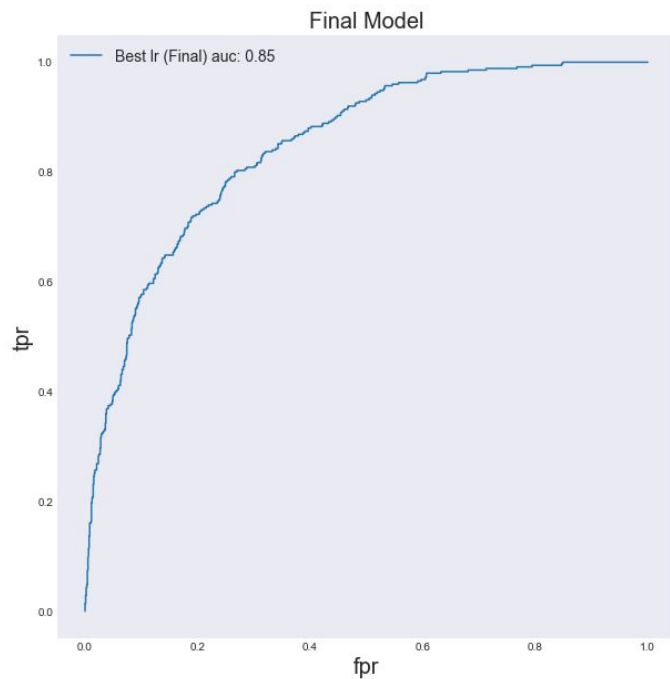




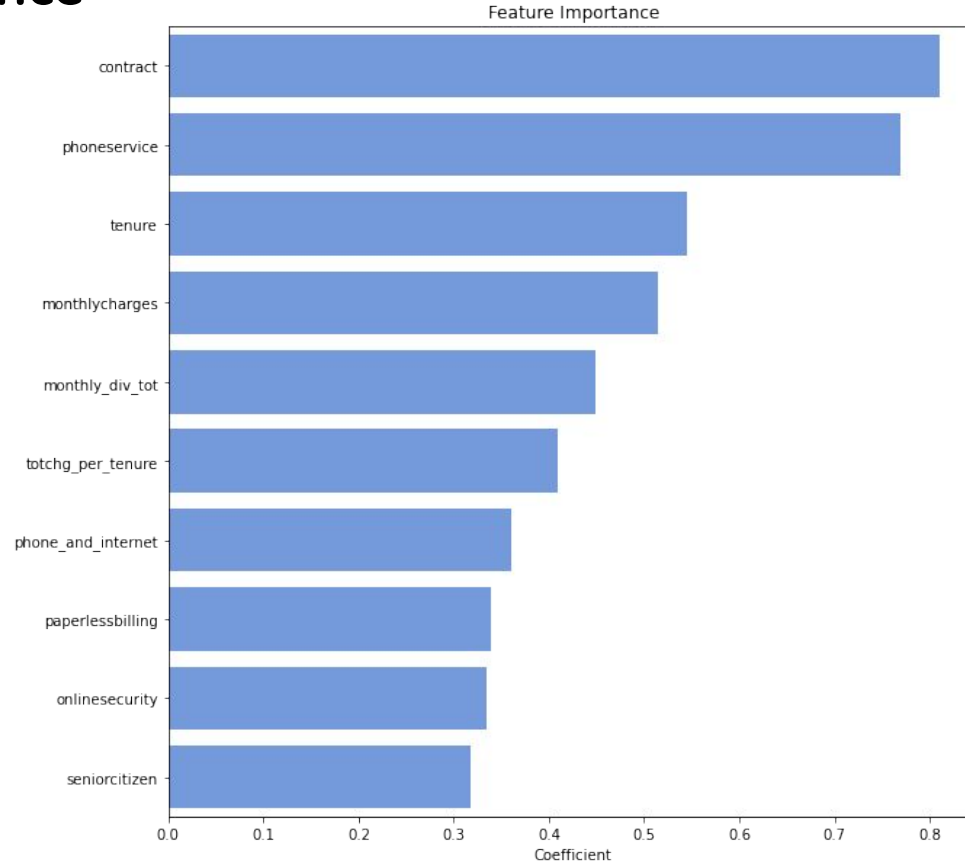
Methods

- Imputing, Scaling, Encoding
- Feature Engineering
- Train, Validation, Test Sets
- Many models
- Ensembles

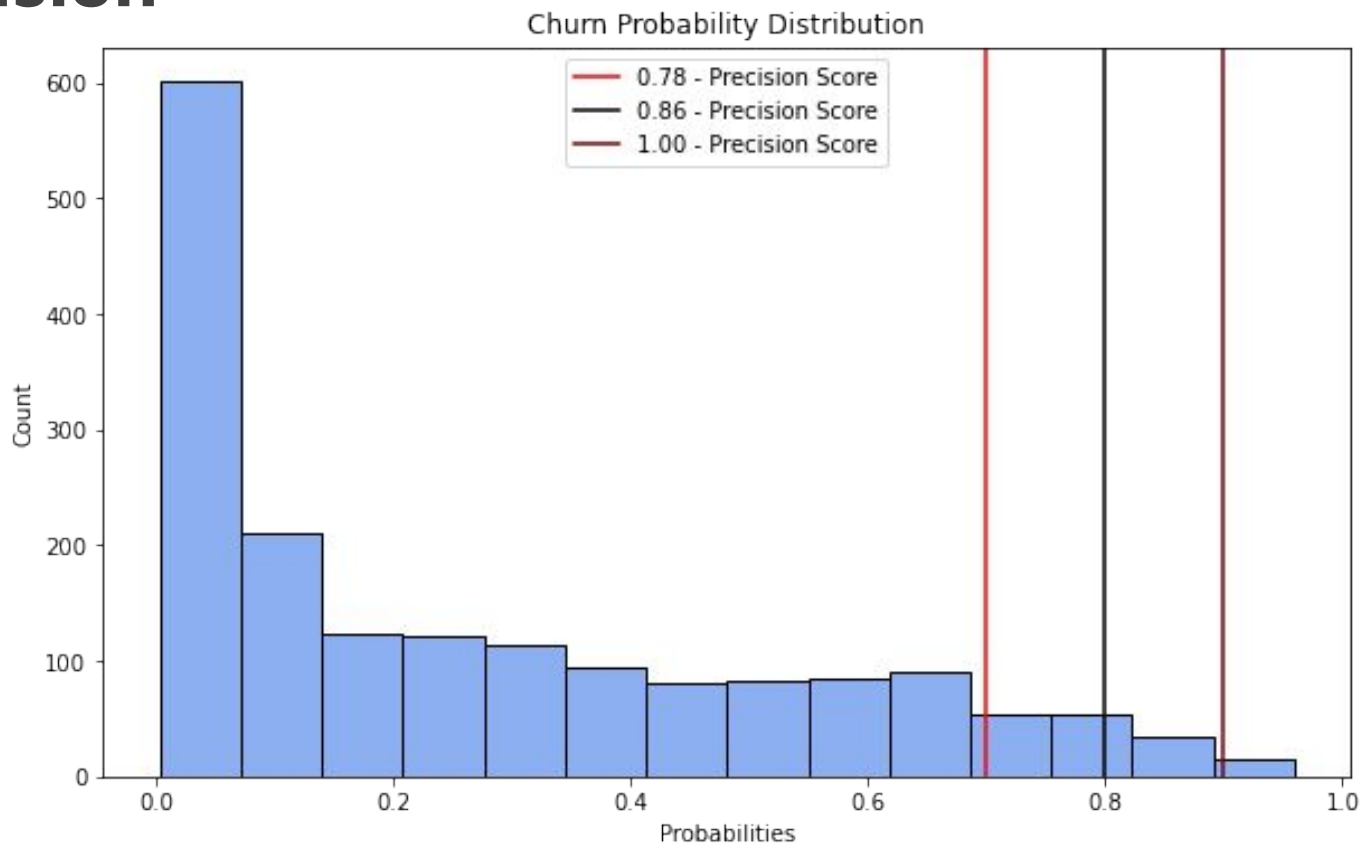
Results



Feature Importance



Precision





Conclusion

Telco should:

- Try to get customers to bundle phone and internet services.
- Create bundles with additional services that customers could choose on top of their basic package.
- Try to get customers to sign on to longer term contracts instead of monthly contracts
- Reach out to customers with a churn probability prediction of 70% or greater. Focus on the customers with the highest percentage first and work down. Offer discounts on bundles and tenure discounts.
- Remove paperless billing and electronic check payment as options.

Thank You!

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