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# FEELING THE CHURN

AN EXPLORATION INTO THE FACTORS CONTRIBUTING TO CUSTOMER TURNOVER FOR ISPS



## METHODOLOGY

## OBTAIN DATA

## SCRUB DATA

## EXPLORE DATA

## MODEL DATA

## INTERPRET DATA



# FEATURE SELECTION

## TEN MOST IMPORTANT FEATURES

TENURE

MONTHLY RATE

MONTH TO MONTH CONTRACTS

NO TECH SUPPORT

IS FIBER OPTIC CABLE

SENIOR CITIZEN

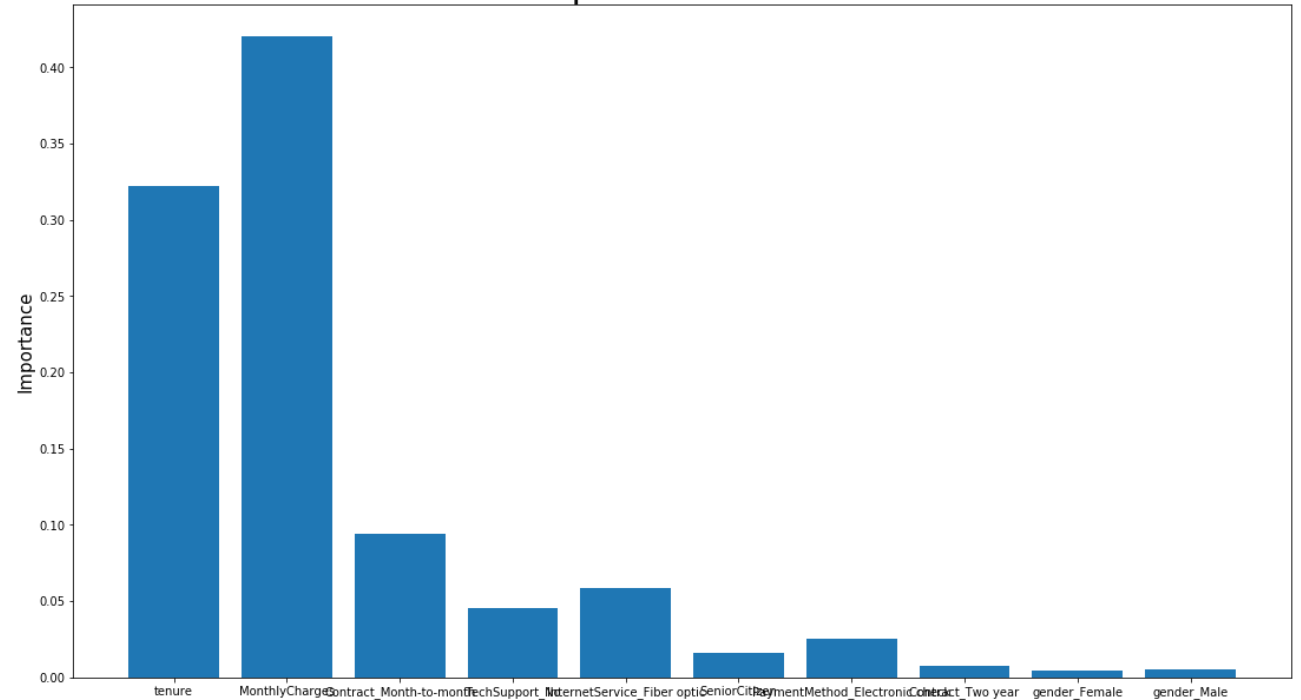
ELECTRONIC CHECK PAYMENT METHOD

TWOYEAR CONTACT

GENDER: FEMALE

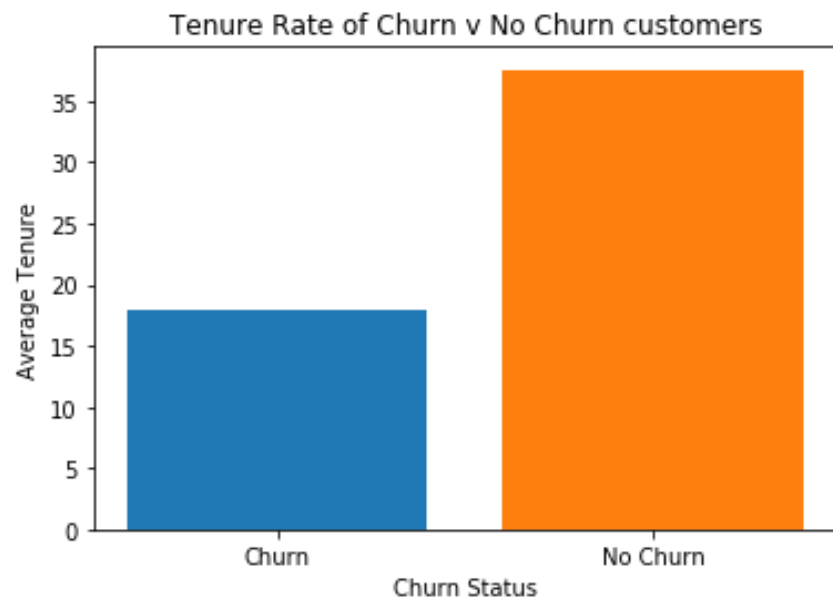
GENDER: MALE

Feature Importance of all features

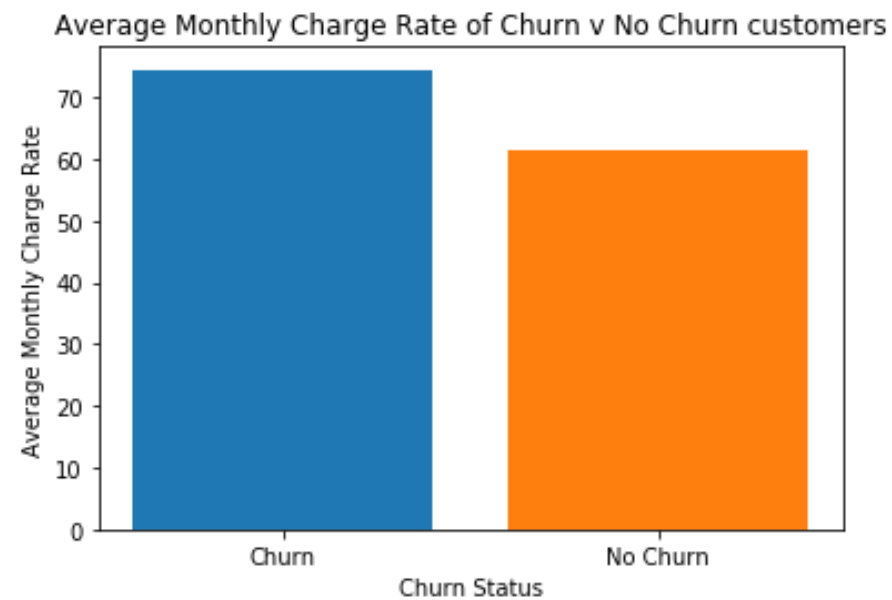


# RATE COMPARISON BETWEEN CHURN/ NO CHURN CUSTOMERS

## Tenure Rate



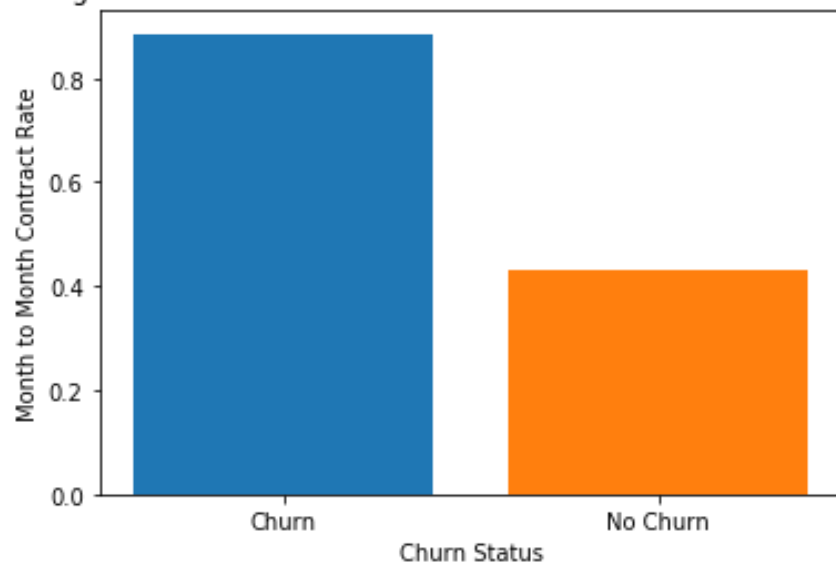
## Average Monthly Rate



# RATE COMPARISON BETWEEN CHURN/ NO CHURN CUSTOMERS

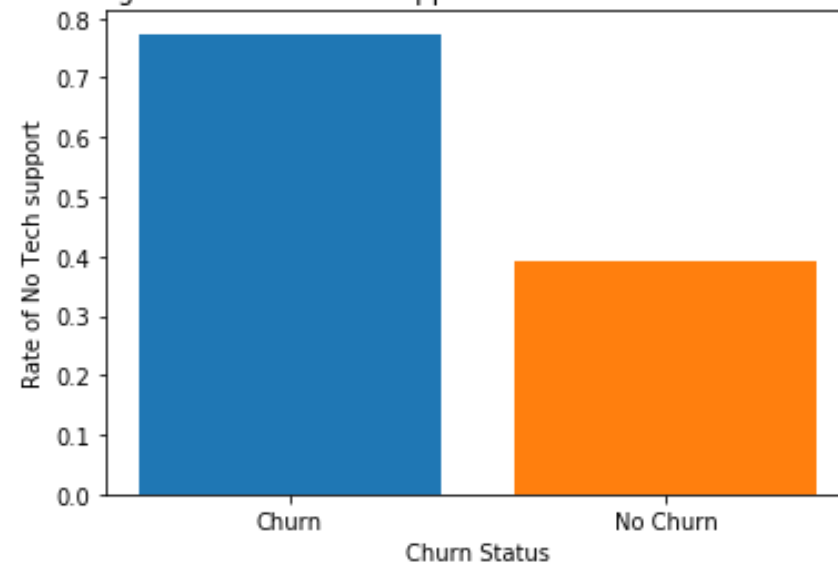
## Month to Month Contract Rate

Average Month to Month Contract Rate of Churn v No Churn customers



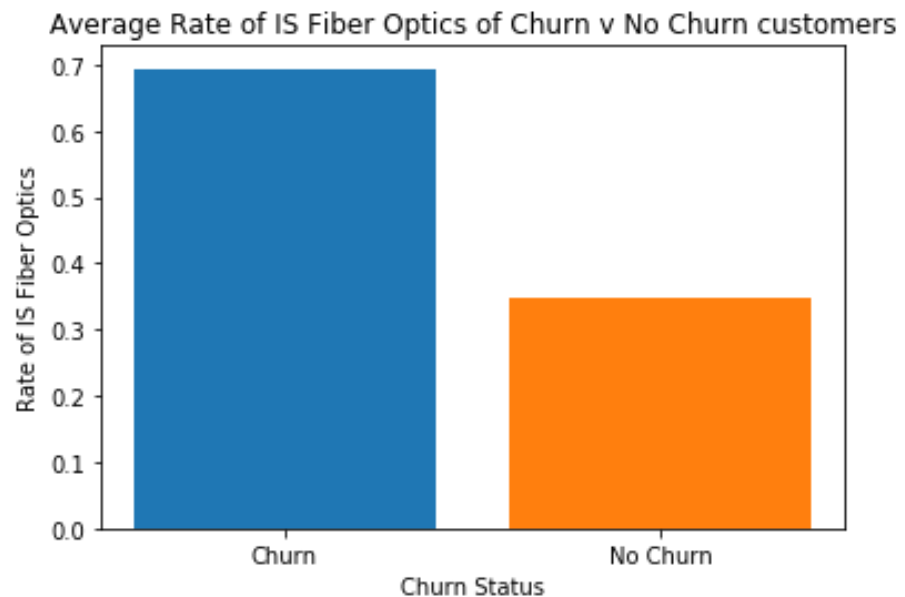
## No Tech Support Rate

Average Rate of No Tech Support of Churn v No Churn customers

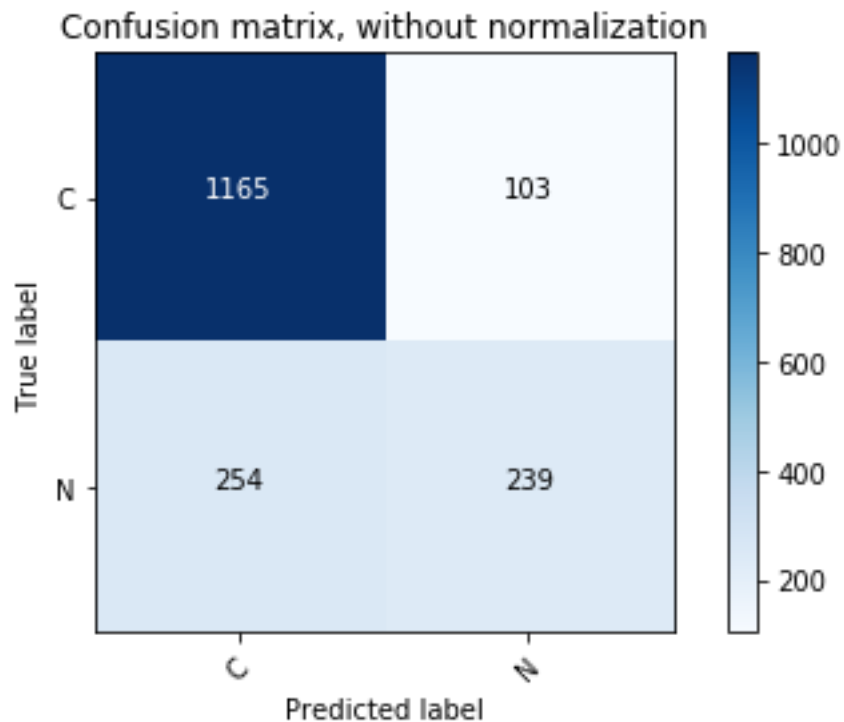


# RATE COMPARISON BETWEEN CHURN/ NO CHURN CUSTOMERS

## Rate of IS Fiber Optics



# MODEL PERFORMANCE



## Final Model

- **XGBoost on 10 features**
- Training Accuracy: 81.92%
- Validation accuracy: 79.78%
- Total Accuracy: 79.73%
- Precision: 82.10%
- Recall: 91.88%
- F1 Score: 86.72%

# CONCLUSIONS

## The best predictors of Churn are:

- Tenure = More Tenure leads to lower churn rate
- Monthly Rate= The lower the monthly rate, the lower the Churn rate
- Month-to-Month Contracts lead to higher Churn rate
- No Tech Support: The higher rate of no tech support, the higher the Churn
- Fiber Optic Cables: Customers who Churn have a higher rate of Fiber Optic Cables

