

# Registered Voter Participation in Union County, NC

**Max Steele (they/them)**



## **PURPOSE: Explore and Analyze Voter Turnout**

### **Explore**

- **2012, 2016, and 2020 elections**
- **Create an interactive dashboard**
  - ▷ **Voter history and registration data**
  - ▷ **Organizing to drive voter turnout very locally**

### **Analyze**

- **Use machine learning to investigate relationships between**
  - ▷ **Voter demographics**
  - ▷ **Voter participation**
- **Built models to predict Vote or No Vote**



## TECHNOLOGIES

Dashboard

  
Streamlit

 plotly



Modeling

*dmlc*  
**XGBoost**

 scikit  
*learn*



# CHALLENGES



## Data Cleaning

- Duplicate records
- Filtering out voters for each election
  - ▷ Registration date
  - ▷ Age



## Modeling

- Limited to 8 categorical features
- Low model accuracy



## Streamlit Layout

- Pros:
  - ▷ All Python code
  - ▷ Easy to deploy
- Cons:
  - ▷ Limited stylistically and organizationally

# Thank you!

## Questions?



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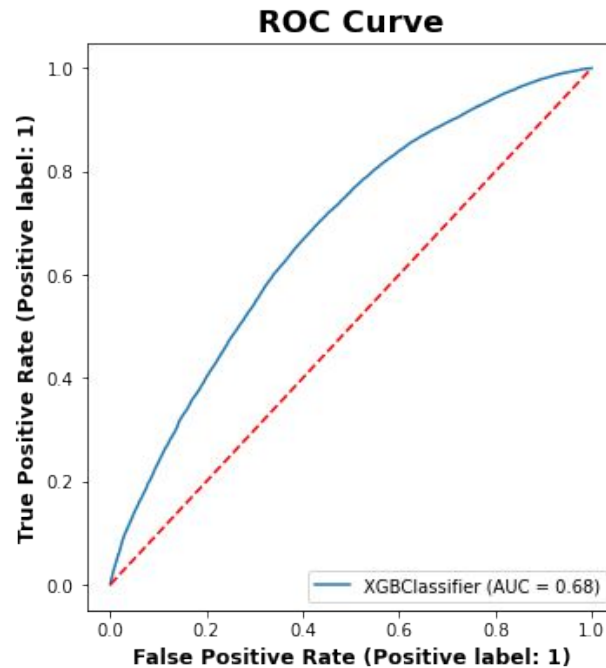
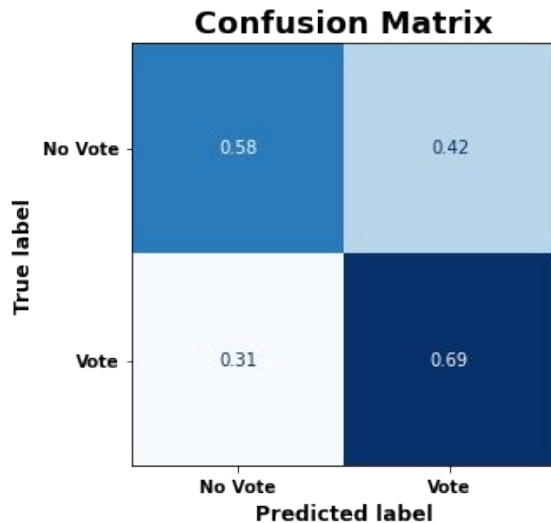


Github: github.com/zero731

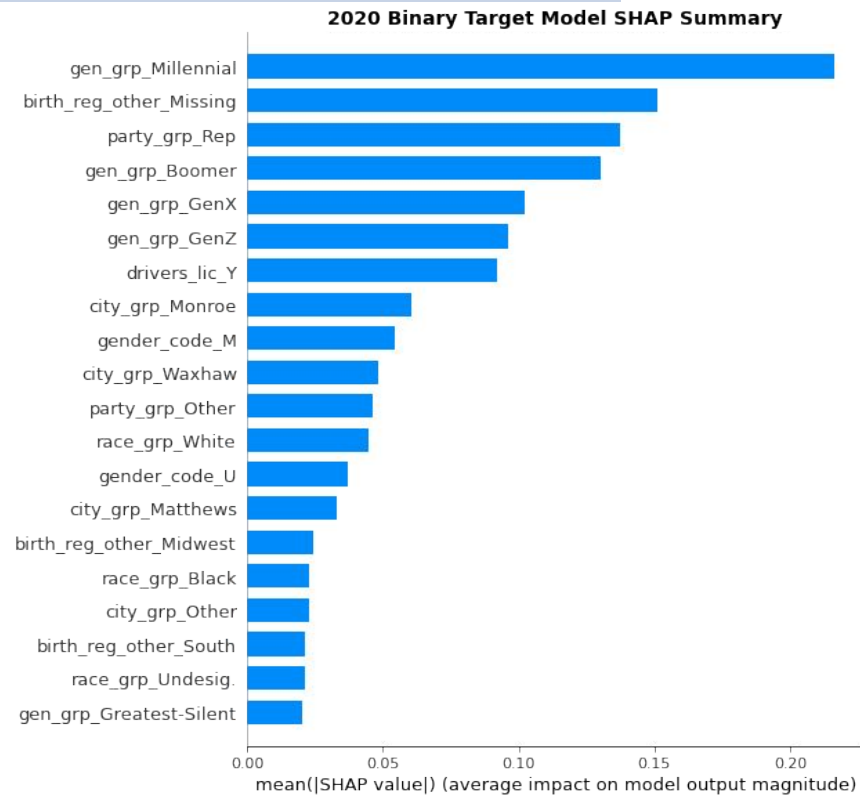


LinkedIn: www.linkedin.com/in/max-steele-0731

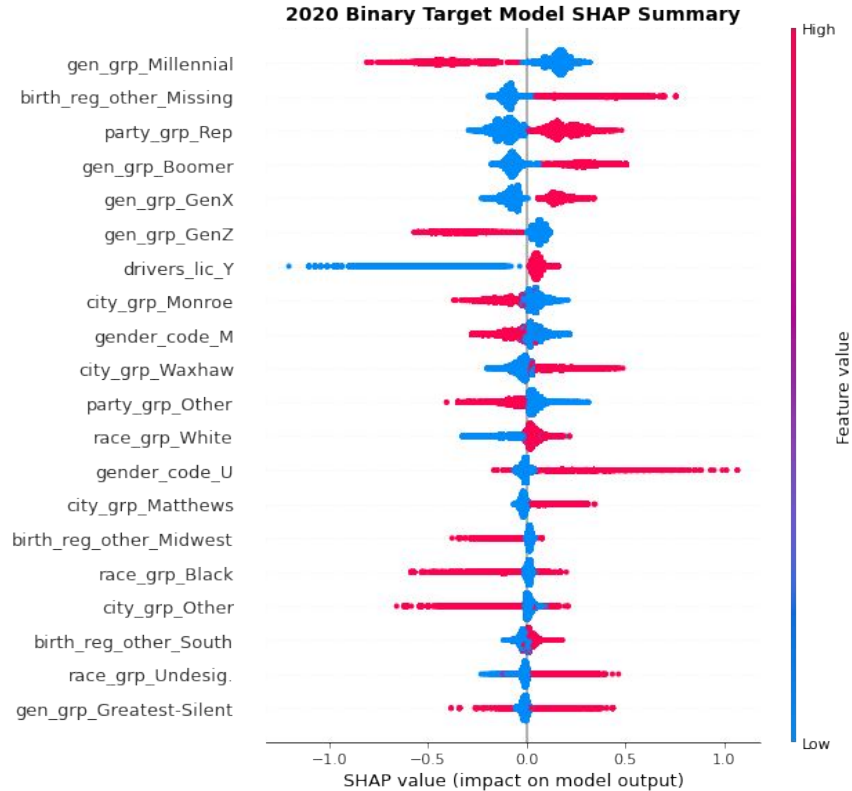
## Appendix I - Best 2020 Model: 66% Accuracy



## Appendix II - Best 2020 Model

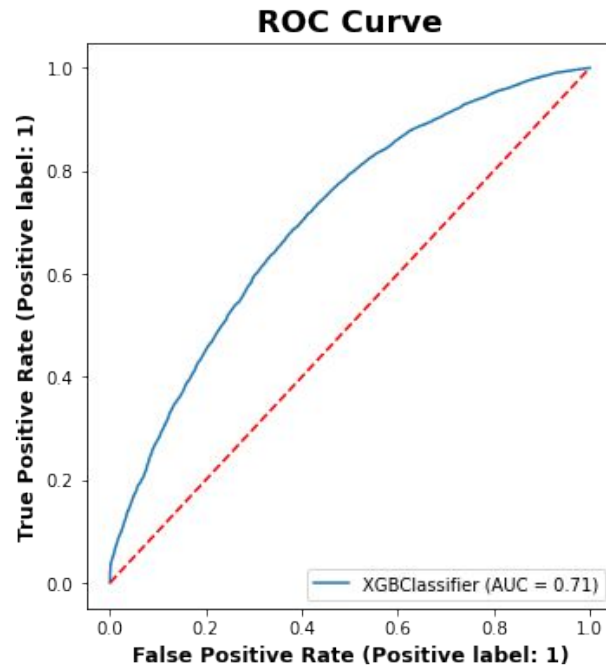
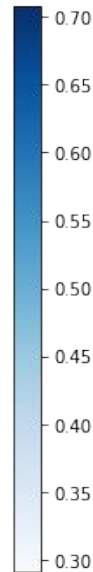
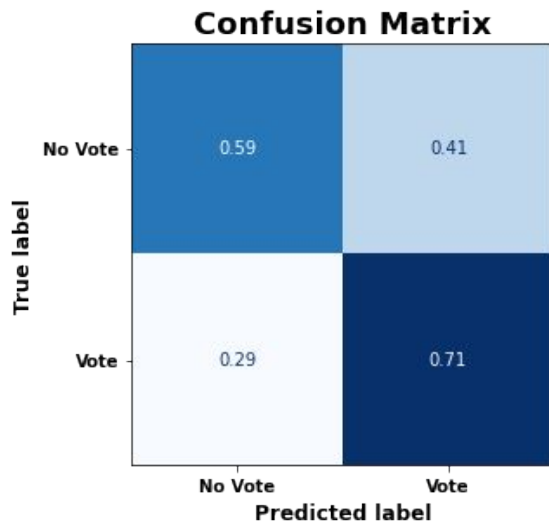


## Appendix III - Best 2020 Model

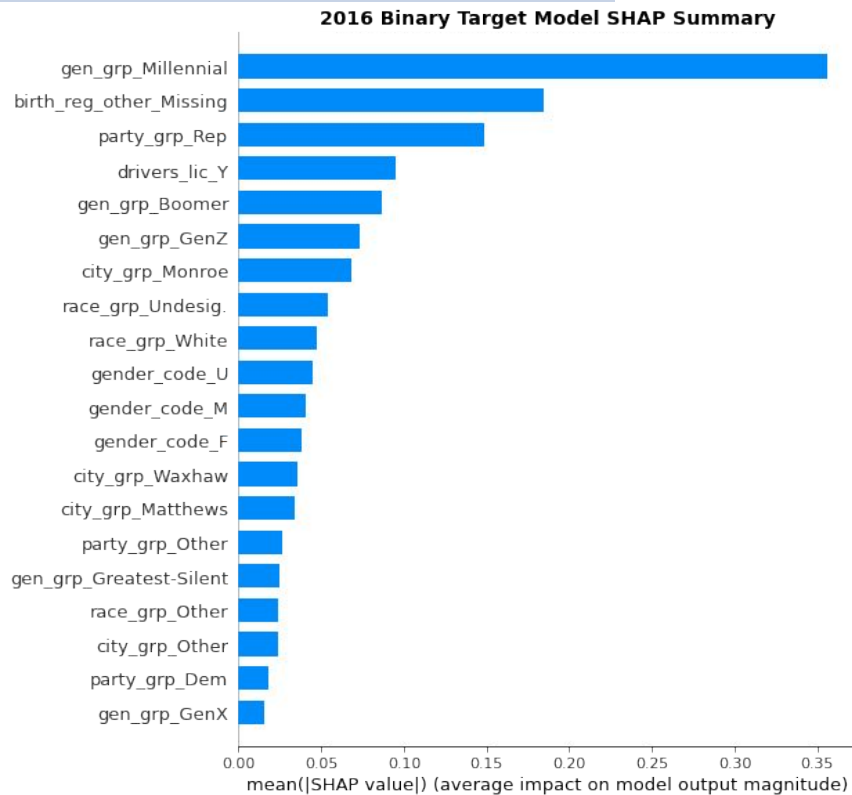




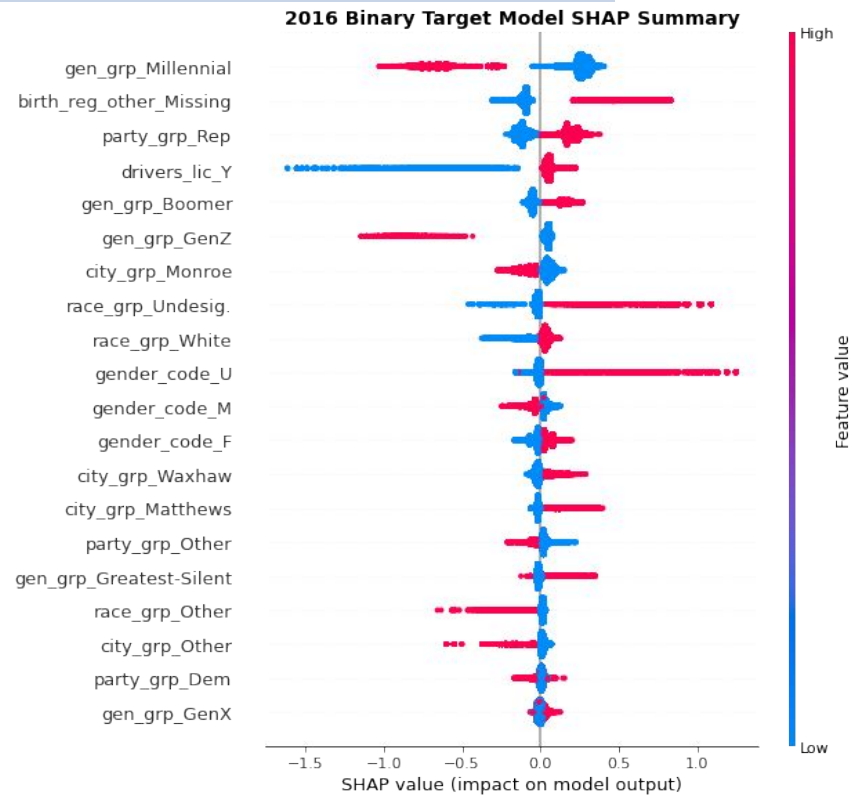
## Appendix IV - Best 2016 Model: 69% Accuracy



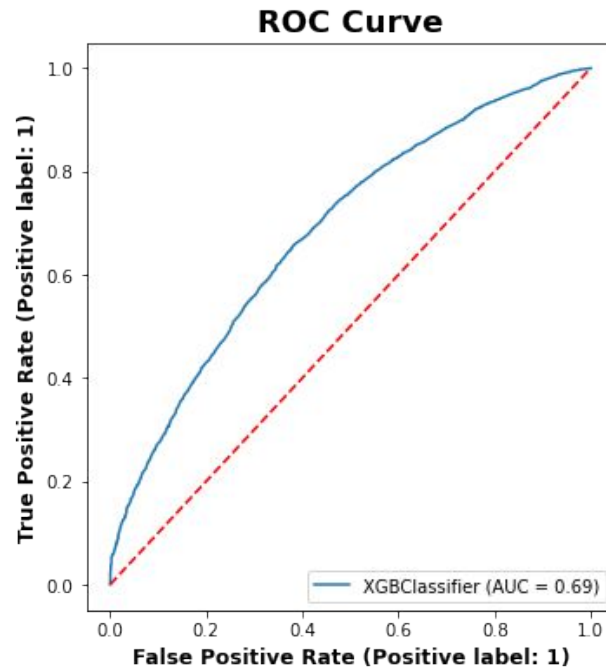
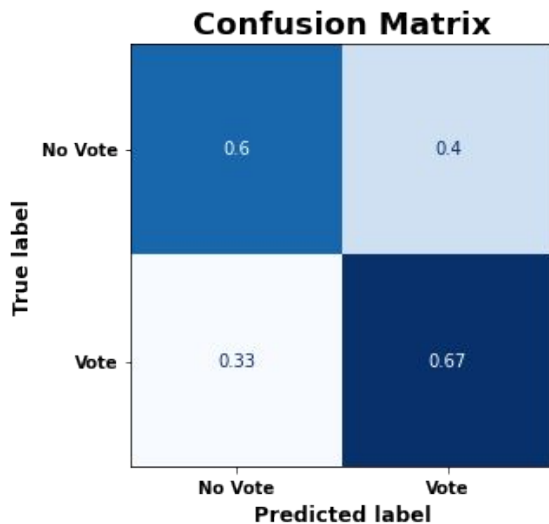
## Appendix V - Best 2016 Model



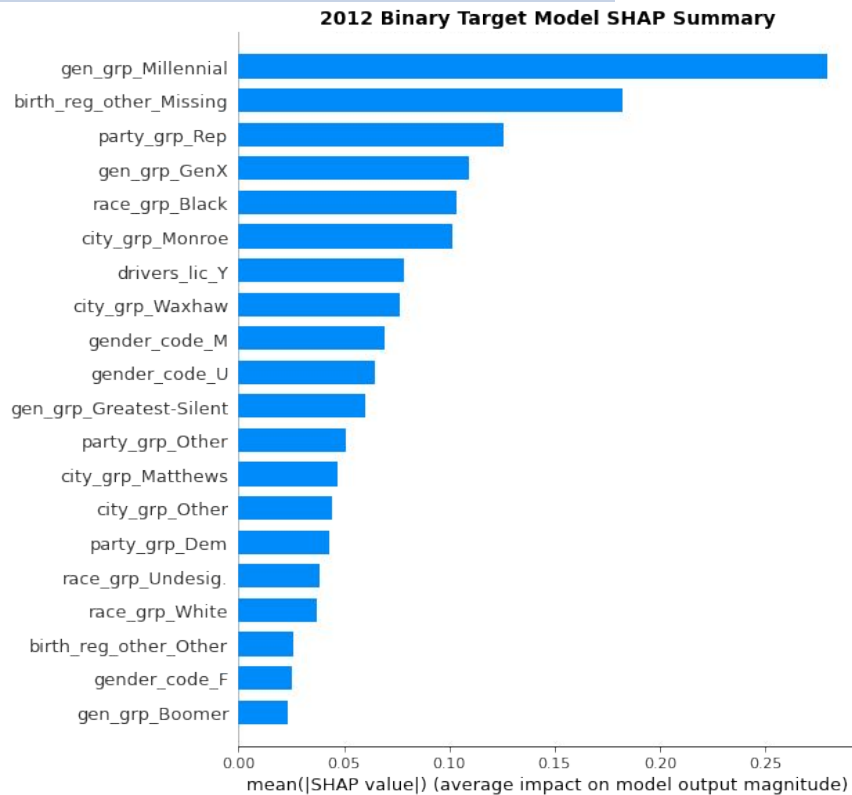
## Appendix VI - Best 2016 Model



## Appendix VII - Best 2012 Model: 66% Accuracy



## Appendix VIII - Best 2012 Model



## Appendix IX - Best 2012 Model

