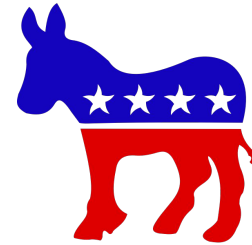




# Overview



The Democratic Party faces an uncertain political future.



EMG Consulting has been retained to build a model to predict election outcomes to help the party better utilize its resources.



## EMG CONSULTING

DATA. ANALYSIS. INSIGHTS.

# The Approach

- Roughly 1,600 records and 27 columns of county-level demographic and presidential election data from 2008-2020 - approx. 50/50 Democratic/Republican split
- Make predictions based on similarity to counties with known outcome in these elections
- Emphasis on creating a model that makes few predictions where the Republican victory comes as a surprise

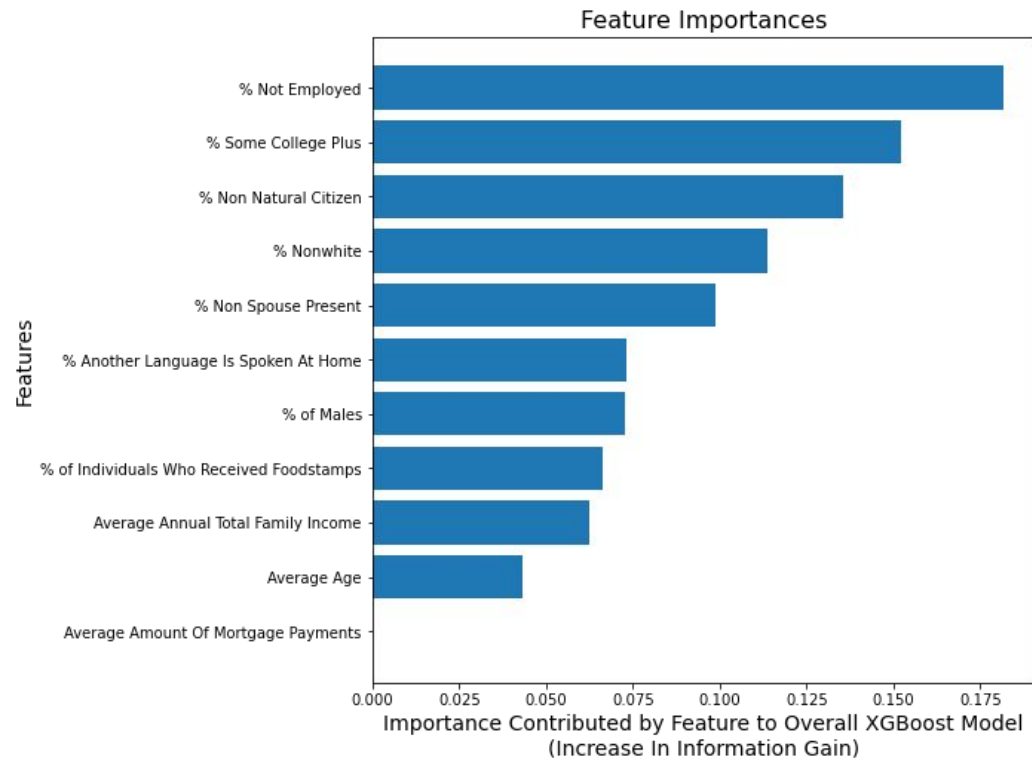





**Recommendation #1: Keep a particularly careful eye on counties where a large proportion is not in the labor force.**

## Proportion of the population out of the labor force is important.

- Includes retirees - a key Republican constituency
- In a different model, increase of ~6.5% percent in this proportion of the population was associated with a ~28% increase in likelihood of Republican victory





**Recommendation #2: To prioritize avoiding surprising election losses, use a model that classifies counties based on similarity to counties with known outcomes.**



## We have a few important metrics:

### Accuracy

How often are we right?

Total proportion of correct predictions.

### Recall

How often are we surprised in a bad way?

False negatives mean surprise  
Republican victories.

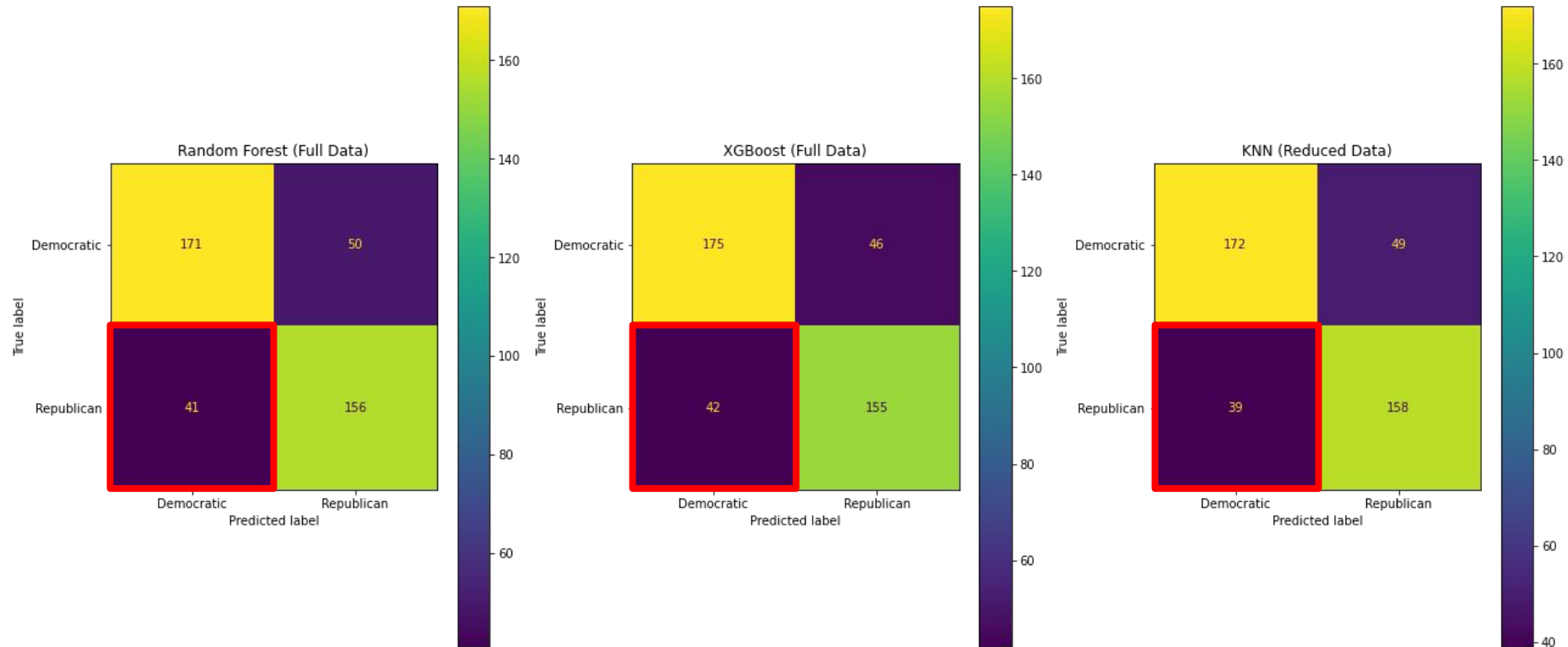
### Precision

How often are we surprised in a good way?

False positives mean surprise  
Democratic victories.

# Model Performance

Comparison of Random Forest, XGBoost, and KNN Models

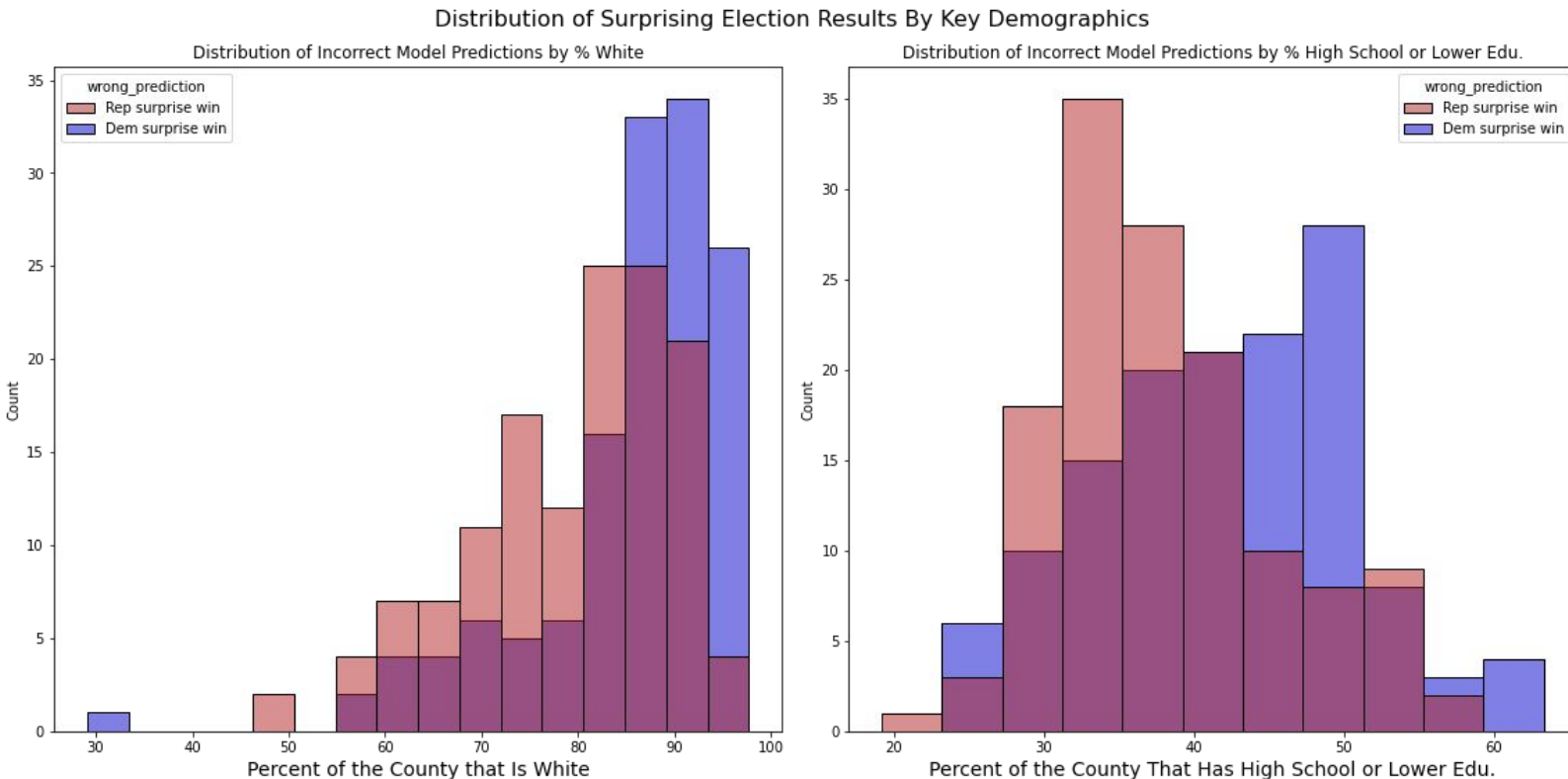






**Recommendation #3: Work to shore up the party's base in communities of color and higher-educated communities.**

# The Map Is Shifting. The Party Must Adapt.





# Thank you.

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GitHub Repository Link