

## Group #5

### Motivation:

Last election results are very interesting, and several states have surprising result . Most of the media had the wrong prediction. Moreover, in the last few years, the western countries have had several elections that have unexpected results too. We want to know if the same social values exist among western countries that would influence the election results.

### Problem:

Can we use the data under following categories: Economics, Political affiliation (also known as political party), and Background or Social Media - to train a model which can use to predict the election results? Does the western world have similar social values that affect the elections? Is there a correlation between the results of elections and economics, background, or social media?

We expect it is complicated project which involves a lot of features, data collecting, and pre-processing. We expect that our model can give us some idea about people's preferences on the candidates and their raised issues. If our model can also work on other western countries, then we may be able to conclude that the social values are same among some countries.

### Proposed Solution:

We want to use our data to see if we can create a model to predict whether or not the republican candidate will win the election. We randomly picked Republican, our choice has nothing to do with our own affiliations. We are separating the election into only Republican and Democratic. A description of all our desired attributes/features is at the end of the document.

We want to use SVM to create our model because the data is not linearly separable. It has more dependent features.

### Datasets:

Presidential election results

<https://data.opendatasoft.com/explore/dataset/usa-2016-presidential-election-by-county%40public/table/>

115th Congress Members and Party/Affiliations

<https://data.opendatasoft.com/explore/dataset/us-115th-congress-members%40public/table/>

Census Survey 2015

[https://data.world/uscensusbureau/acs-2015-5-e-placeofbirth/workspace/file?filename=00\\_REA\\_DME.md](https://data.world/uscensusbureau/acs-2015-5-e-placeofbirth/workspace/file?filename=00_REA_DME.md)

inflation data

<https://www.inflation.eu/inflation-rates/united-states/historic-inflation/cpi-inflation-united-states.aspx>

Average income by state :

<https://www.census.gov/content/dam/Census/library/publications/2017/acs/acsbr16-02.pdf>

Poverty rate :

<https://www.statista.com/statistics/233093/us-poverty-rate-by-state/>

employment, employment, and population:

<https://www.bls.gov/news.release/pdf/srgune.pdf>

party affiliation by state:

<http://www.pewforum.org/religious-landscape-study/compare/party-affiliation/by/state/>

Data:

Each row belongs to a state

Column/Attribute	Description
State	The US state. Not used in the data model
Republican Senators	The percentage of republican senators in capitol hill
Republican Representatives	The percentage of republican representatives in capitol hill
Money Spent on Republican Campaign as percentage	The amount spent on the campaign out of the total spent ( rep / (rep+dem) )
Voter Affiliation	Number of voters who affiliate with the party at the time of the voting registration (2015)
Republican Second Term	National candidate is running a second term (will be the same for each state for one year)
Poverty	Poverty rate during the election year
inflation	Inflation rate for the year
Avg age	Average age for the state (may need ranges instead)
Median household income	(self explanatory)
Foreign born	Percentage population for the state
Stock market	NASDAQ 1 year ago % change
Unemployment rate	percentage
High School Graduate	Rate (%)
College Graduate	Rate (%)
Republican Candidate win (?)	Binary, TARGET column