Predicting the 2021 Georgia Senate Runoff

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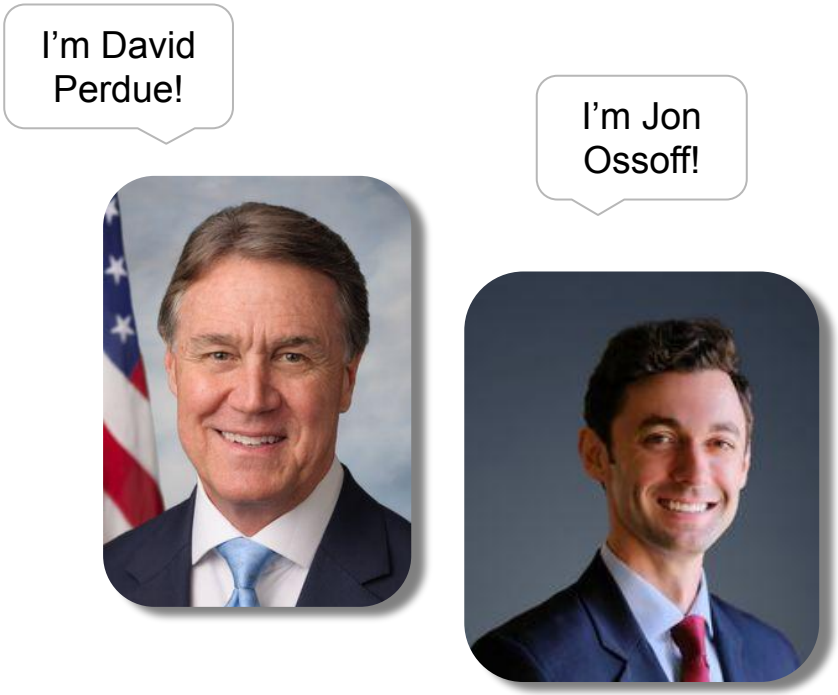
https://github.com/ST541-Fall2020/connorputnam-finalproject-Election_Simulation

Goal: Predict the Probabilities for Each Candidate

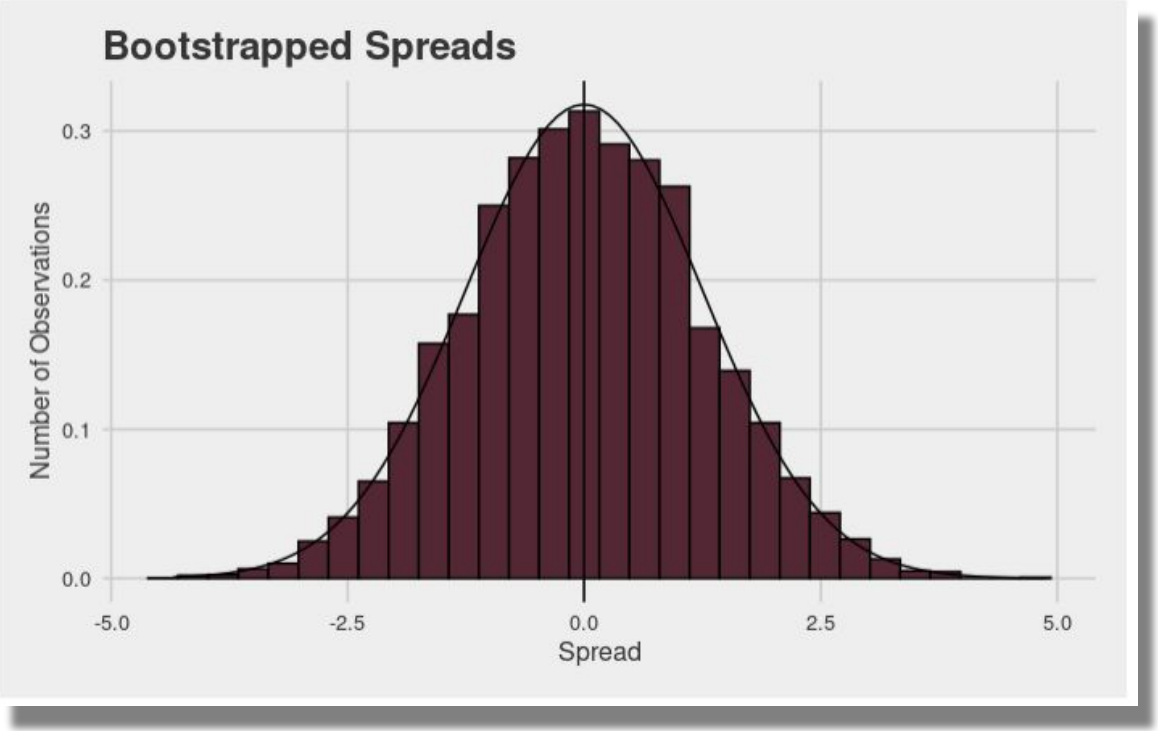
- Sourced data from fivethirtyeight.com
- Specifically will be addressing just the runoff between Republican incumbent David Perdue and Democratic challenger Jon Ossoff.



Limitations

- Relying on polling data, so if the polls are off in some systematic way the results will not be reliable.
- Only applicable to this specific election
- The sample size is limited, in that the sample size is one, which is just the nature of election forecasting

Methods

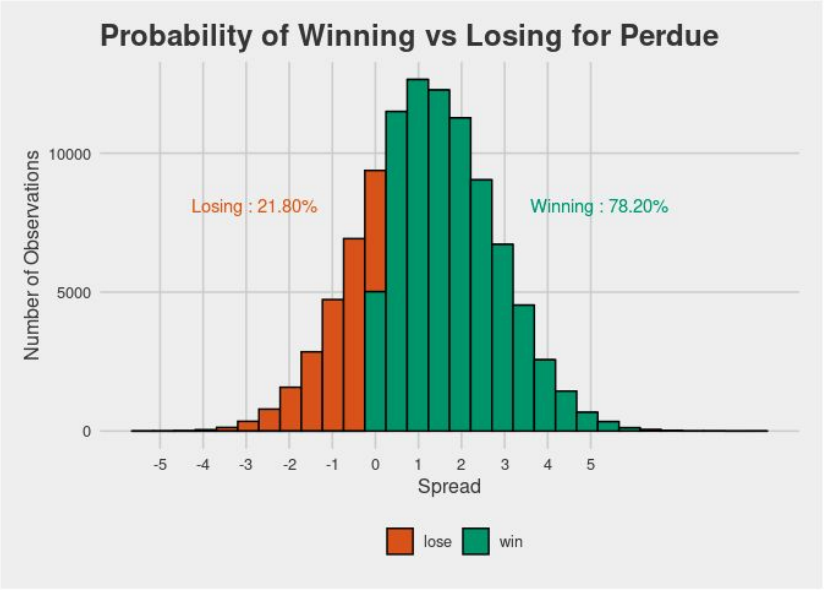


- Due to limited polling data I decided to bootstrap my data in order to achieve a normal distribution.

Results

- The end result is a function where the user inputs the name of either candidate and the bootstrapping and probability computation is calculated. Users will see the resulting graphic.
- If you are placing bets based off this model Perdue has the advantage.

```
probability_winning_plot("Perdue")
```

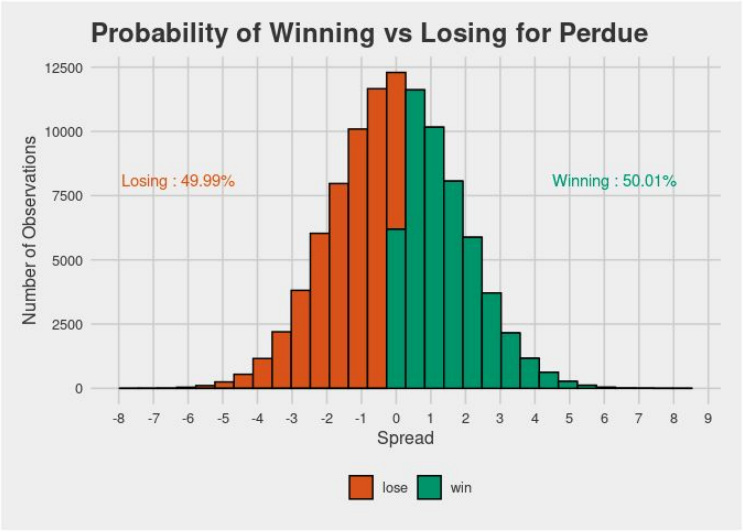


Checking the Simulation

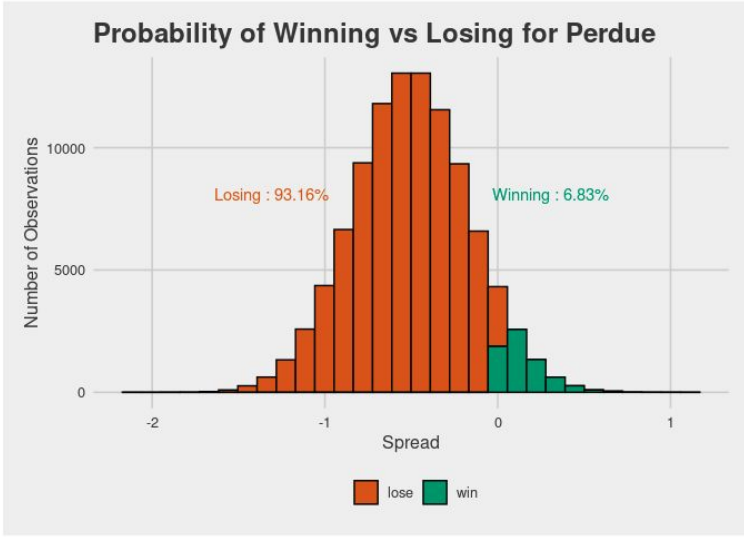
- In order to make sure the simulation works it was tested with some edge case scenarios.

Notice the different spread ranges

```
fake_polling(distribution = runif, size = 100000, min_spread = -4,
             max_spread = 4, candidate = "Perdue")
```




```
fake_polling(distribution = runif, size = 100000, min_spread = -2,
             max_spread = 1, candidate = "Perdue")
```



Now all that can be done is to wait and see if the Senate flips Blue or stays Red...

But if you cannot wait that long and want to play with the polling data yourself, feel free to ask me any questions by emailing me or head over to Github! Thank you!

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