

Project Proposal CSCI 5352

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1 Questions

I'm interested in applying network analysis techniques to explore national level politics in the United States. To this end, I plan to study the current sitting US Senate as of today, October 17, 2018, to address two questions.

1.1 Where do Senators Come From?

First, I will attempt to shed insight on what career paths Senators have taken. By tracking data about a Senator's major career moves, I hope to be able to recognize common life experiences shared by multiple Senators by calculating some measure of path similarity. With this, I want to be able to say something about what archetypal professions become US Senators, (ie: professional politician, activist, business person) and where these professions tend to fall on the major party divide.

1.2 Do Pre-Senatorial Careers Predict Voting?

Second, once the first question has been handled, I would like to see if similar career trajectories have any correlation with voting habits. I want to create a network to represent the voting histories of each Senator, and calculate co-voting similarity, and compare this to career path similarity. If we find a correlation, this would imply that similar career experiences result in similar political stances. This can be done within both major parties, to see if it gives rise to differences that exist inside a party, as well as across parties, to see if it effects similar stances held by people across party lines. Viewing it in this way seems useful to me since in general we expect votes to be largely the same within a party, and opposed across parties.

2 Plan

2.1 Data

In order to get the data of Senators careers, I plan to use publicly accessible crowd-sourced online resources like Wikipedia.org and Ballotpedia.org. While the crowd-sourced nature of these leaves room for misin- formation, community standards for such high profile and highly scrutinized people is high and I believe trustworthy. Helpfully, Ballotpedia provides a clear and simply formatted career section for all Senators, usually starting with college graduation, though I will want to do some validation of this information with my our web searches to ensure nothing is left out. This information will probably also have to be entered by hand, so I can make decisions about what jobs are similar enough to be considered "the same" across Senators. Given that there are only 100 Senators, I think this is quite doable.

Ballotpedia also has a full voting history of every Senator that I plan to gather programmatically. This information is simple enough to be gathered without ambiguities and is stored in an accessible way that should not cause a problem.

2.2 Methods

Once the data is gathered, I will form it into networks for career path and voting history. For career path, I plan to represent a Senator as a series of nodes of college graduations, jobs (public, private and political), and other major "career" type decisions like inter-state moves. These nodes will be connected with edges with respect to linear progression from one even to the next. It might also be interesting to include Senate committees and advising positions taken on inside a Senatorial term, information provided conveniently on Ballotpedia. With this, similarities between senators careers can be calculated, with some human decisions on what jobs count as similar.

For voting, I'm thinking of taking a set of key, interesting votes and creating a network of with Senators as nodes and mutual edges connecting Senators when they share a vote. This would have to have multi- edges and would produce a graph with a large average degree, and I am not quiet sure I know how to handle this (as such I am open to and actively considering other representations), but hopefully I can calculate some good co-voting groups. With this I can see if these co-voting groups share similar career backgrounds with the career path similarity calculated to answer the previous question. Care will need to be taken to avoid bias in picking what counts as "interesting votes", as picking only highly controversial votes will probably introduce atypical behavior, while including many routine, procedural votes will probably not tell us anything interesting and might dampen actual and interesting co-voting patterns.

3 Expectations

In the first question, I expect to see relatively few career archetypes, mostly dominated by

professional politicians and business people, with activists a distant third and a small handful of others. Additionally, I expect to see a bias towards professional politicians and activists in the Democratic party, and a bias for business people in the Republican party, though I feel most Senators of either party to be mostly politicians and business people. I also suspect the Republican party will feature a greater number of "oddball" outliers, as a legacy of the Tea Party movement, though I am guessing this trend will be small. I expect Senators not belonging to either political party to be exactly Bernie Sanders and Angus King. (For the purpose of this study I will probably count both as Democrats, where both caucus.)

For the second question, I expect loose correlation with career history and vote history. Largely, I expect to see both parties voting basically as a block, and in opposition to each other, on the more politicized votes at least. Assuming my guess about the Senators being mostly professional politician, activist and business people, I expect politicians to mostly vote with each other and the party within parties, and against each other across parties. I expect activists to more often vote with each other and against party within the parties, and against each other across parties. For business people, I expect to see more voting together across parties, voting together inside of parties, and a small trend of voting against party within the Democrats and a trend of voting with party inside the Republicans.

4 Related Work

TBD (Like tomorrow, 10/18)