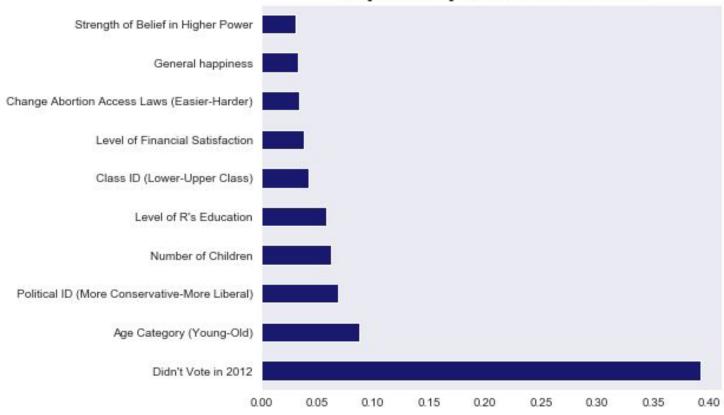


The Data

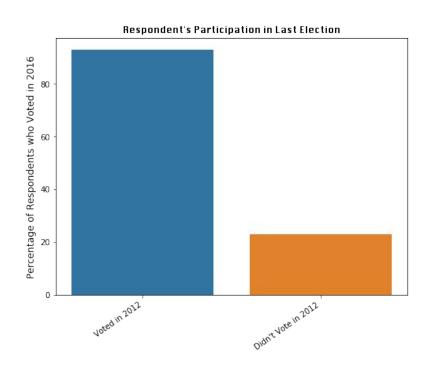
- 2018 General Social Survey (GSS)
- Variables: respondents' participation in last two elections, socio-economic info, and political attitudes
- After data cleaning:
 - 1,083 rows (survey respondents)
 - 18 columns (survey questions)
 - only eligible voters who remembered voting history

Top 10 important features





Percentage of 2016 Voters by Predictor

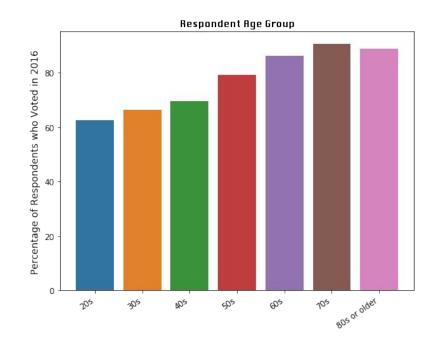


- Just over 20% of those who didn't vote in 2012 voted in 2016.
- Recommendation: engage voters who didn't vote in 2016 and/or other recent elections.



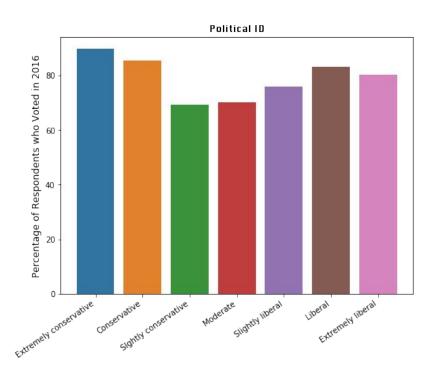
Percentage of 2016 Voters by Predictor

- The percentages of voters in their 20s and 30s were the lowest.
- Recommendation: focus on reaching younger voters.





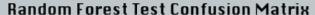
Percentage of 2016 Voters by Predictor

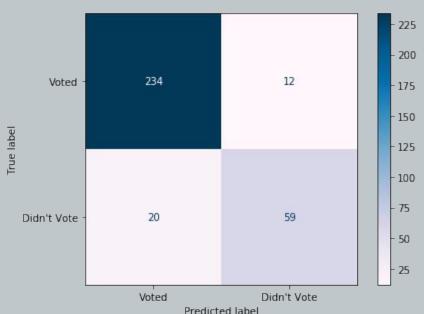


- Moderates and slightly liberal or conservative voters had the lowest turnout.
- Recommendation: engage voters who don't place themselves on the more extreme ends of this spectrum.



Best Classification Model: Random Forest



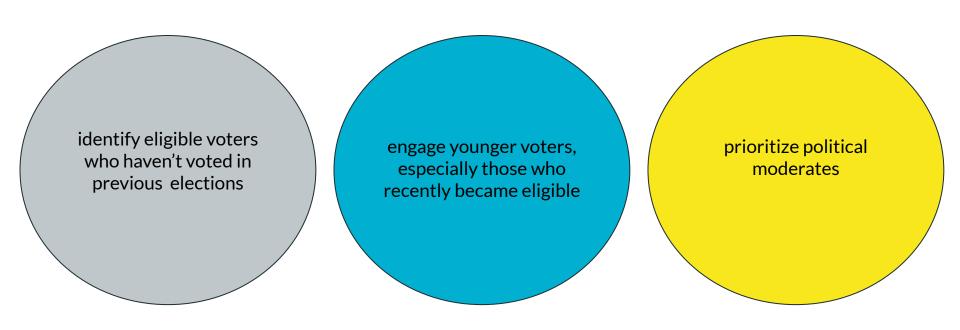


Test Data Accuracy: 90%

Percentage of correctly classified non-voters: 74%

Recommendations Recap

To maximize the number of potential non-voters that you reach:



Questions for Future Work

- Which voter engagement strategies are most effective at increasing voter turnout?
- What are the most significant barriers to voting among eligible voters who don't vote, but report an interest in doing so?

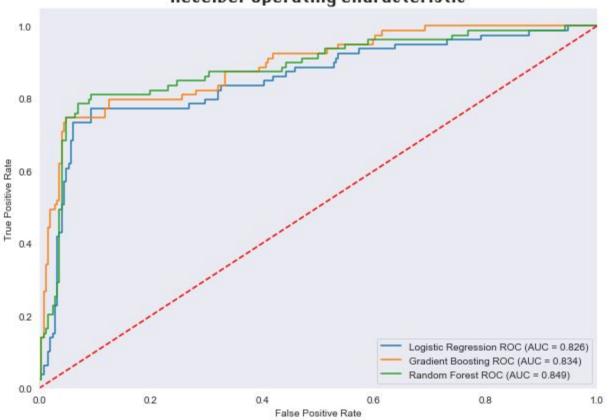


Thank you!

Appendix







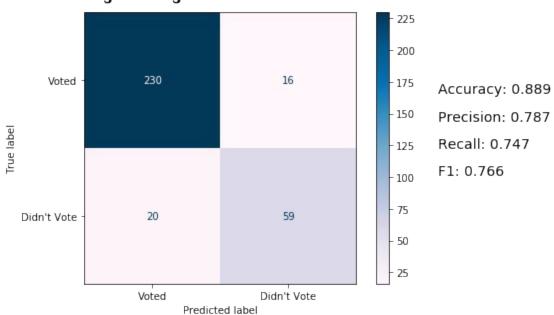
Recall Scores

Logreg: 0.734

Gradient Boosting: 0.709

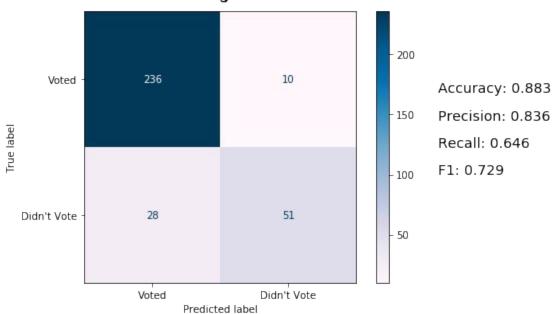
Random Forest: 0.747

Logistic Regression Test Confusion Matrix





Gradient Boosting Test Confusion Matrix

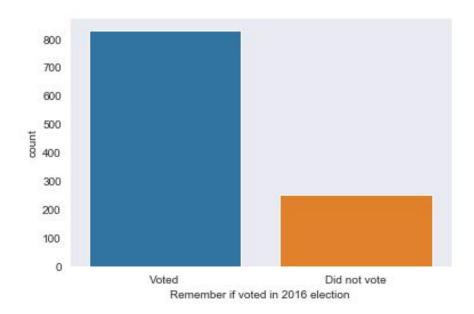




Variable Correlations

Employed	•	0.018	0.046	0.066	0.068	0.0099	0.02	0.16	0.12	0.16	0.16	0.23	0.096	0.04	0.091	0.011	0.033	0.069	
Class ID (Lower-Upper Class)	0.018	1	0.37	0.086	0.16	0.17	0.17	0.02	0.36	0.2	0.16	0.3	0.17	0.00087	0.063	0.064	0.15	0.045	0.12
Level of Financial Satisfaction	0.046	0.37	1	0.049	0.086	0.32	0.19	0.0092	0.22	0.048	0.011	0.28	0.094	0.1	0.024	0.12	0.13	0.077	0.11
Strength of Belief in Higher Power	0.066	0.086	0.049	1	0.026	0.054	0.031	0.17	0.12	0.082	0.035	0.086	0.048	0.23	0.27	0.16	0.1	0.15	0.12
Didn't Vote in 2016	0.068	0.16	0.086	0.026	1	0.074	0.062	0.013	0.23	0.083	0.03	0.1	0.69	0.029	0.023	0.053	0.096	0.0046	0.22
General happiness	0.0099	0.17	0.32	0.054	0.074	1	0.29	0.082	0.081	0.032	0.024	0.18	0.035	0.084	0.046	0.05	0.042	0.013	0.0016
Has Marriage Partner	0.02	0.17	0.19	0.031	0.062	0.29	1	0.18	0.07	0.037	0.00032	0.25	0.019	0.12	0.068	0.15	0.13	0.024	0.0021
Number of Children	0.16	0.02	0.0092	0.17	0.013	0.082	0.18	1	0.18	0.15	0.17	0.061	0.03	0.11	0.16	0.026	0.091	0.011	0.3
Level of R's Education	0.12	0.36	0.22	0.12	0.23	0.081	0.07	0.18	1	0.36	0.38	0.28	0.26	0.11	0.16	0.077	0.13	0.0096	0.079
Father Attended College	0.16	0.2	0.048	0.082	0.083	0.032	0.037	0.15	0.36	1	0.48	0.12	0.086	0.087	0.13	0.044	0.078	0.0056	0.23
Mother Attended College	0.16	0.16	0.011	0.035	0.03	0.024	0.00032	0.17	0.38	0.48	1	0.13	0.077	0.11	0.12	0.056	0.0017	0.013	0.28
Fam Income Above 25k	0.23	0.3	0.28	0.086	0.1	0.18	0.25	0.061	0.28	0.12	0.13	1	0.14	0.055	0.061	0.075	0.091	0.043	0.1
Didn't Vote in 2012	0.096	0.17	0.094	0.048	0.69	0.035	0.019	0.03	0.26	0.086	0.077	0.14	1	0.0094	0.052	0.071	0.098	0.048	0.28
Political ID (More Conservative-More Liberal)	0.04	0.00087	0.1	0.23	0.029	0.084	0.12	0.11	0.11	0.087	0.11	0.055	0.0094	1	0.41	0.13	0.15	0.049	0.14
Change Abortion Access Laws (Easier-Harder)	0.091	0.063	0.024	0.27	0.023	0.046	0.068	0.16	0.16	0.13	0.12	0.061	0.052	0.41	1	0.074	0.044	0.035	0.1
Black	0.011	0.064	0.12	0.16	0.053	0.05	0.15	0.026	0.077	0.044	0.056	0.075	0.071	0.13	0.074	1	0.72	0.0057	0.081
White	0.033	0.15	0.13	0.1	0.096	0.042	0.13	0.091	0.13	0.078	0.0017	0.091	0.098	0.15	0.044	0.72	1	0.026	0.15
Female	0.069	0.045	0.077	0.15	0.0046	0.013	0.024	0.011	0.0096	0.0056	0.013	0.043	0.048	0.049	0.035	0.0057	0.026	1	0.032
Age Category (Young-Old)	O 40	0.12	0.11 chor	0.12	0.22	0.0016	0.0021	0.3	0.079	0.23	0.28	0.1 25*	0.28	0.14 merall	0.1 rdef	0.081 daoth	0.15	0.032	Oldi
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