

Election 2016 Analysis

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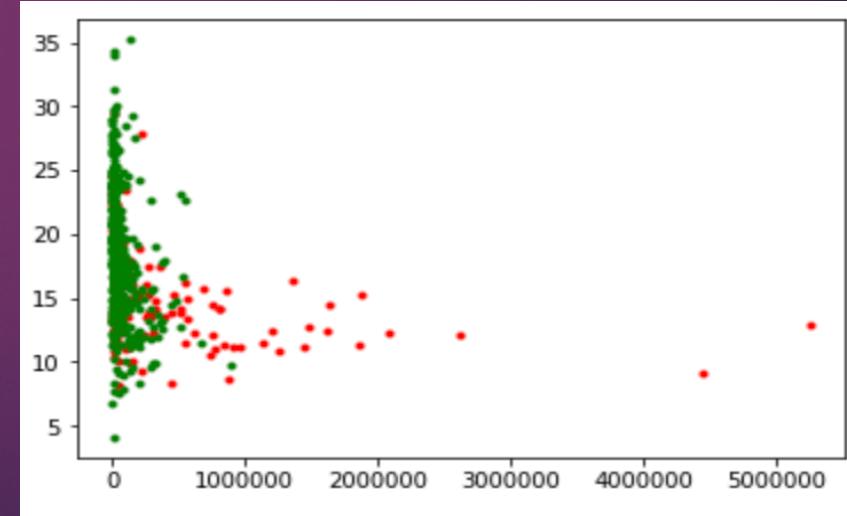
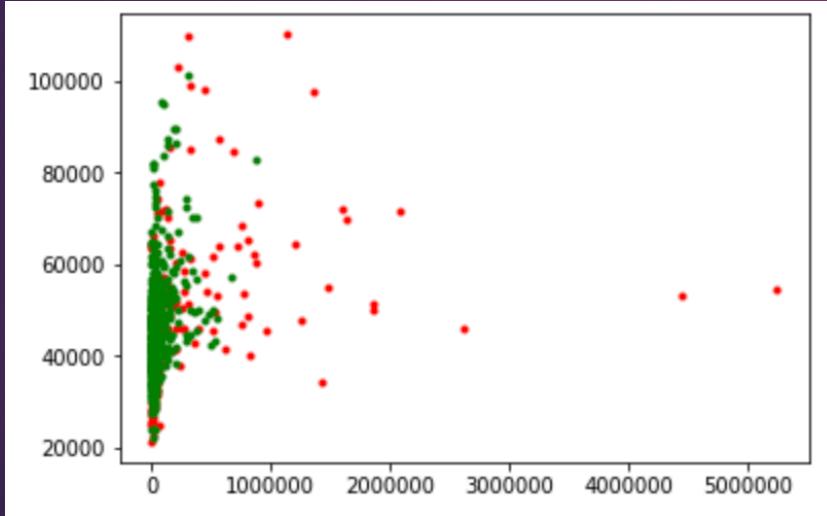
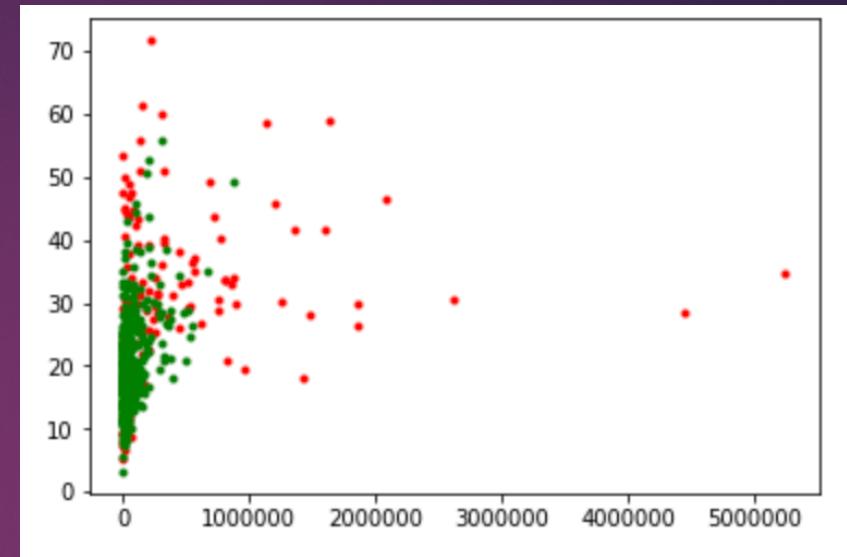
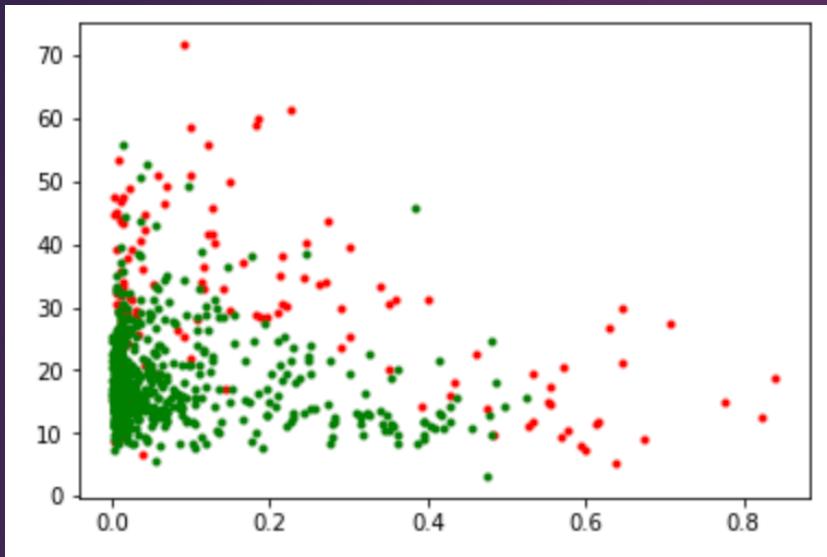
	Democrat	population	population_change	age65plus	Black	Hispanic	Edu_bachelors	income	Poverty	Density
0	0	55395	1.5	13.8	0.187	0.027	20.9	53682	12.1	91.8
1	0	8433	-2.0	19.3	0.008	0.028	19.9	51793	9.1	13.7
2	0	15080	0.7	18.4	0.036	0.025	9.0	38019	18.4	26.7
3	0	29317	-1.0	15.6	0.030	0.113	13.7	39267	20.6	23.2
4	0	68838	-0.7	19.9	0.045	0.058	12.5	33159	22.7	91.9
5	0	20652	1.0	17.6	0.022	0.033	14.8	44149	16.9	20.7
6	0	3430	0.0	12.3	0.004	0.034	15.9	37607	39.3	2.9
7	0	163820	1.4	15.6	0.073	0.027	36.0	58080	13.9	390.5
8	0	66600	-1.8	19.5	0.099	0.041	17.0	36334	21.5	120.2
9	0	21362	-1.4	18.7	0.006	0.030	20.0	53057	8.3	41.4
10	0	4508	-5.2	17.8	0.005	0.010	12.4	19986	37.7	24.1
11	0	1850	0.2	18.7	0.004	0.025	16.4	71250	7.4	2.6
12	0	8996	-2.7	24.6	0.005	0.020	14.3	42025	9.0	13.3
13	0	44943	5.2	21.1	0.024	0.219	21.9	48115	16.3	43.0
14	0	6679	-2.6	15.0	0.041	0.037	15.4	64574	8.7	5.3
15	0	6598	2.9	19.6	0.007	0.022	19.7	48911	13.2	4.3
16	1	435286	-1.5	14.6	0.197	0.067	23.4	41556	20.8	1296.2
17	0	15994	-1.7	18.3	0.291	0.015	13.8	37388	20.6	28.6
18	0	86697	3.7	15.3	0.095	0.023	15.5	50786	15.2	132.3
19	1	213869	4.9	10.4	0.406	0.064	26.1	60781	11.2	633.0

Objective

- Train, Predict and Analyze data using Logistic regression and Neural Network models
- How accurate could Logistic regression predict?
- How accurate could NN model predict?
- Which one was better, why?
- Which features affect the output the most?
- Which features don't affect the output?
- How can this model be improved?
- Any special findings of behaviors or patterns in dataset?

Approach & Findings

- Trained models with 2335 samples and tested with 778 samples
- Logistic Regression : sklearn linear_model : Accuracy 91.19%
- Neural Network : 9-4-1 Architecture with BP : Accuracy 93.43%
- Correlation matrix, weight matrix & all subset regression for pattern analysis



Future Goals

- Compare data with previous elections and find out behavioral changes in features.
- Use similar model with international elections and see if there's any similarities between them
- Find more behavioral patterns using more features

Thank you!