

UFO Sightings and Presidential Elections

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Introduction: UFO Sightings and American Voters

- We started with a dataset of UFO sightings around the world.
- Given the recent election, we decided to see how UFO sightings compared to trends in US voting results.



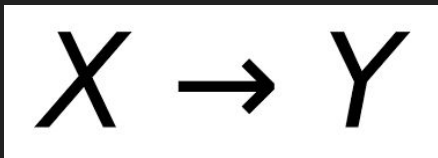
Tools



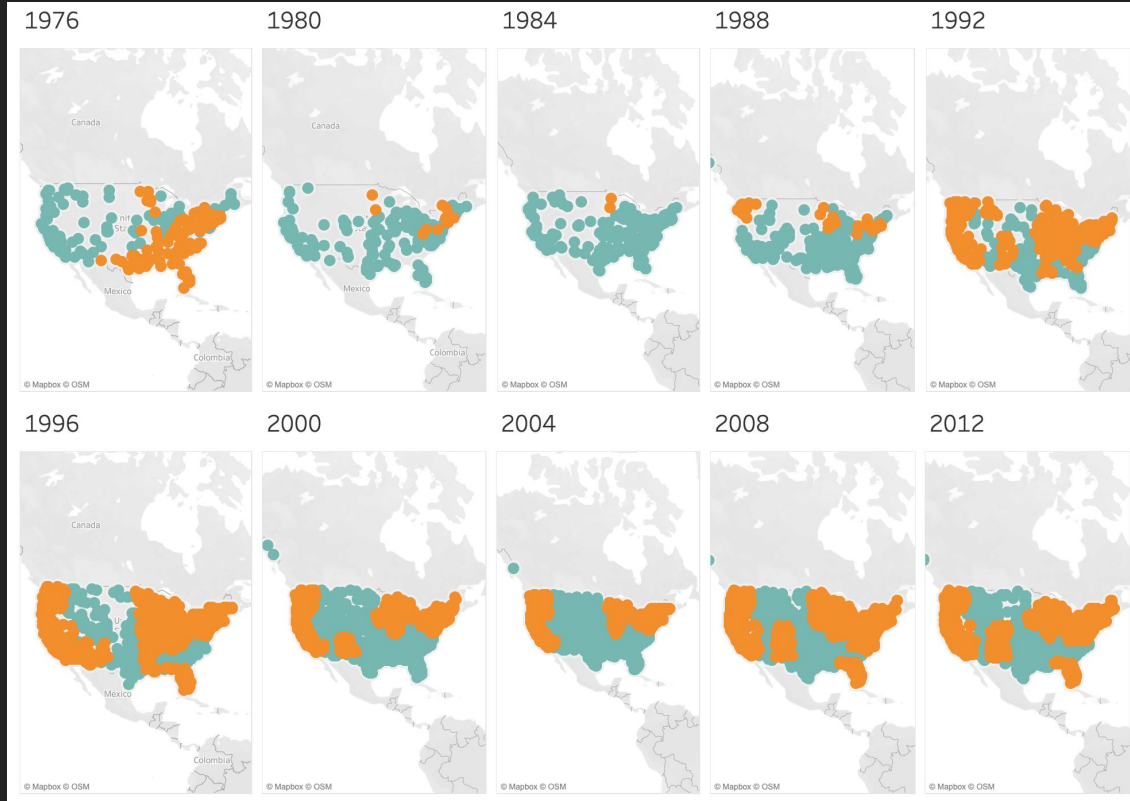
Python packages: Pandas, Sklearn, Matplotlib, WordCloud, Seaborn, NLTK, numpy, Tableau



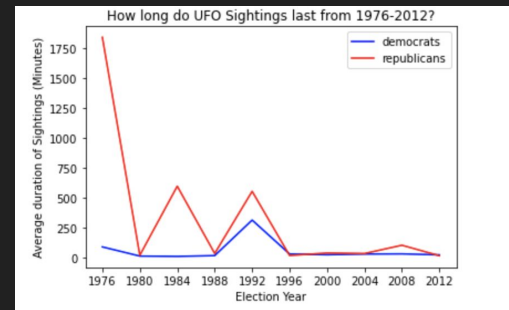
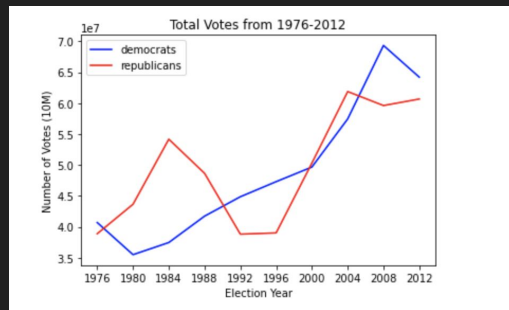
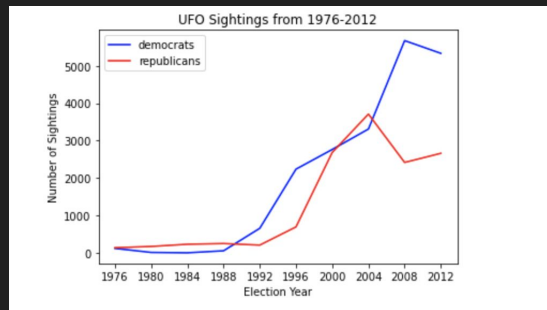
R: arules, arulesviz



Initial Findings

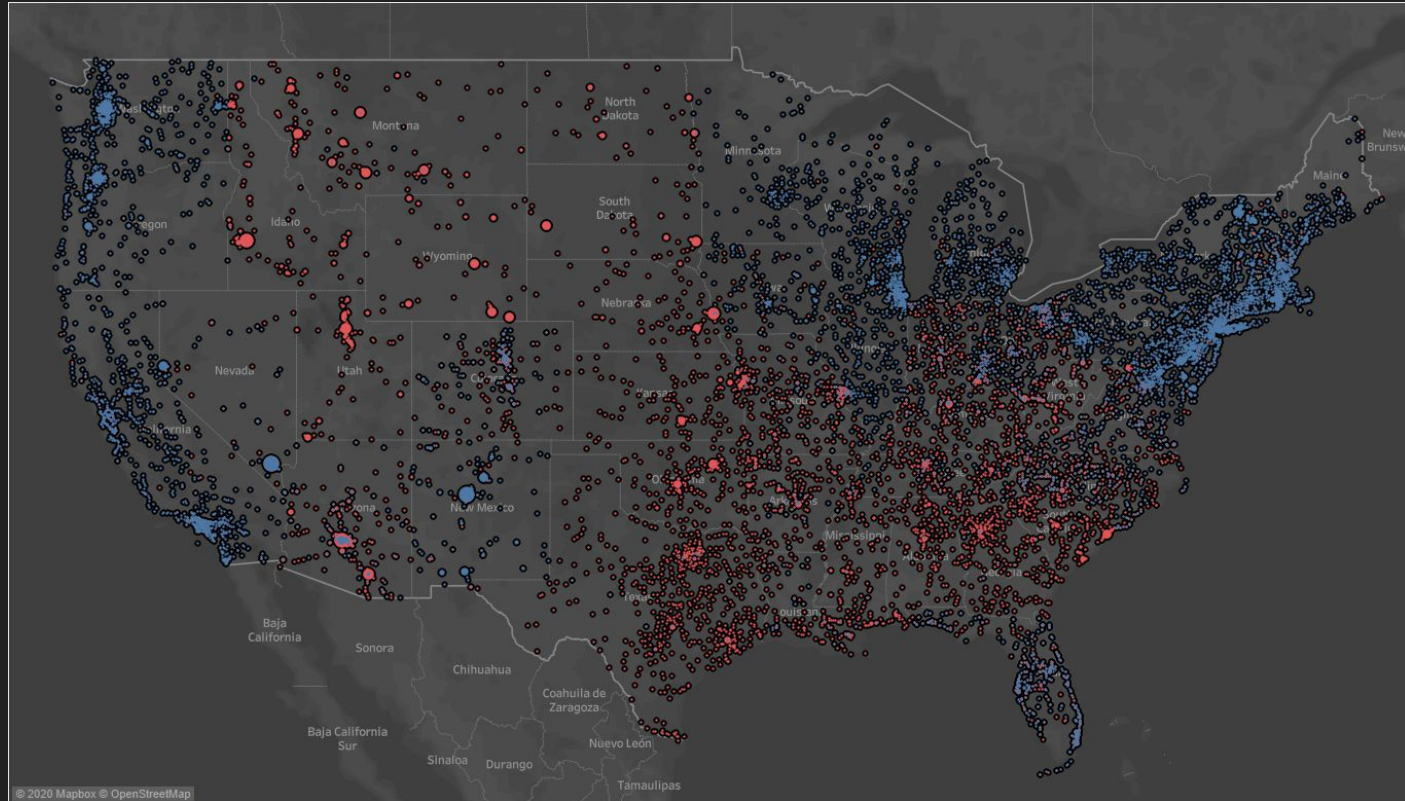


Correlation, but is there more?

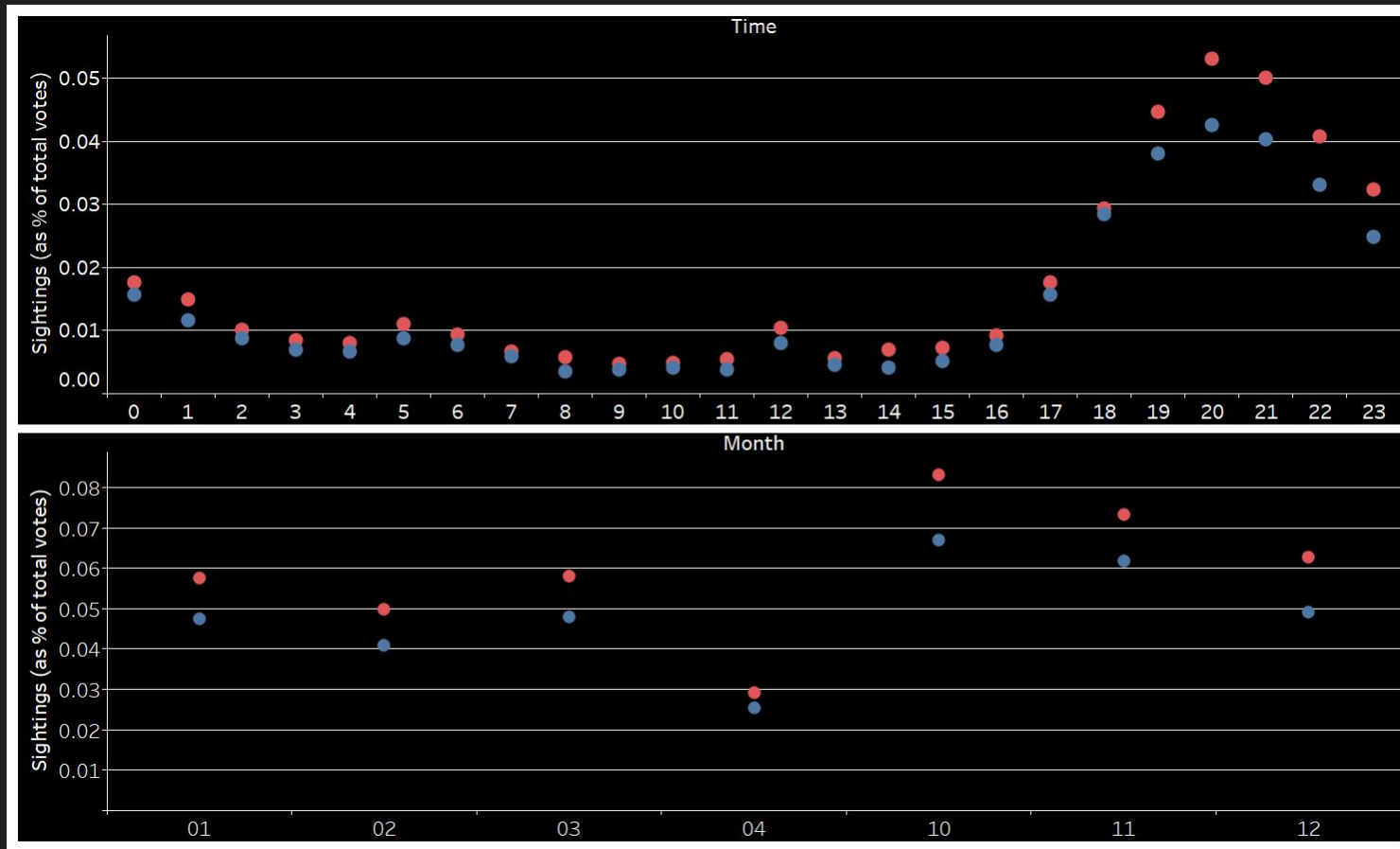


	election_years	dem_votes_year	rep_votes_year	dem_ufo_sightings	rep_ufo_sightings	dem_time_year	rep_time_year
election_years	1.000000	0.923465	0.695396	0.935860	0.843115	-0.125038	-0.608772
dem_votes_year	0.923465	1.000000	0.694626	0.975797	0.809245	-0.120176	-0.366542
rep_votes_year	0.695396	0.694626	1.000000	0.687736	0.781332	-0.483529	-0.446459
dem_ufo_sightings	0.935860	0.975797	0.687736	1.000000	0.826678	-0.228438	-0.438671
rep_ufo_sightings	0.843115	0.809245	0.781332	0.826678	1.000000	-0.299684	-0.448843
dem_time_year	-0.125038	-0.120176	-0.483529	-0.228438	-0.299684	1.000000	0.336700
rep_time_year	-0.608772	-0.366542	-0.446459	-0.438671	-0.448843	0.336700	1.000000

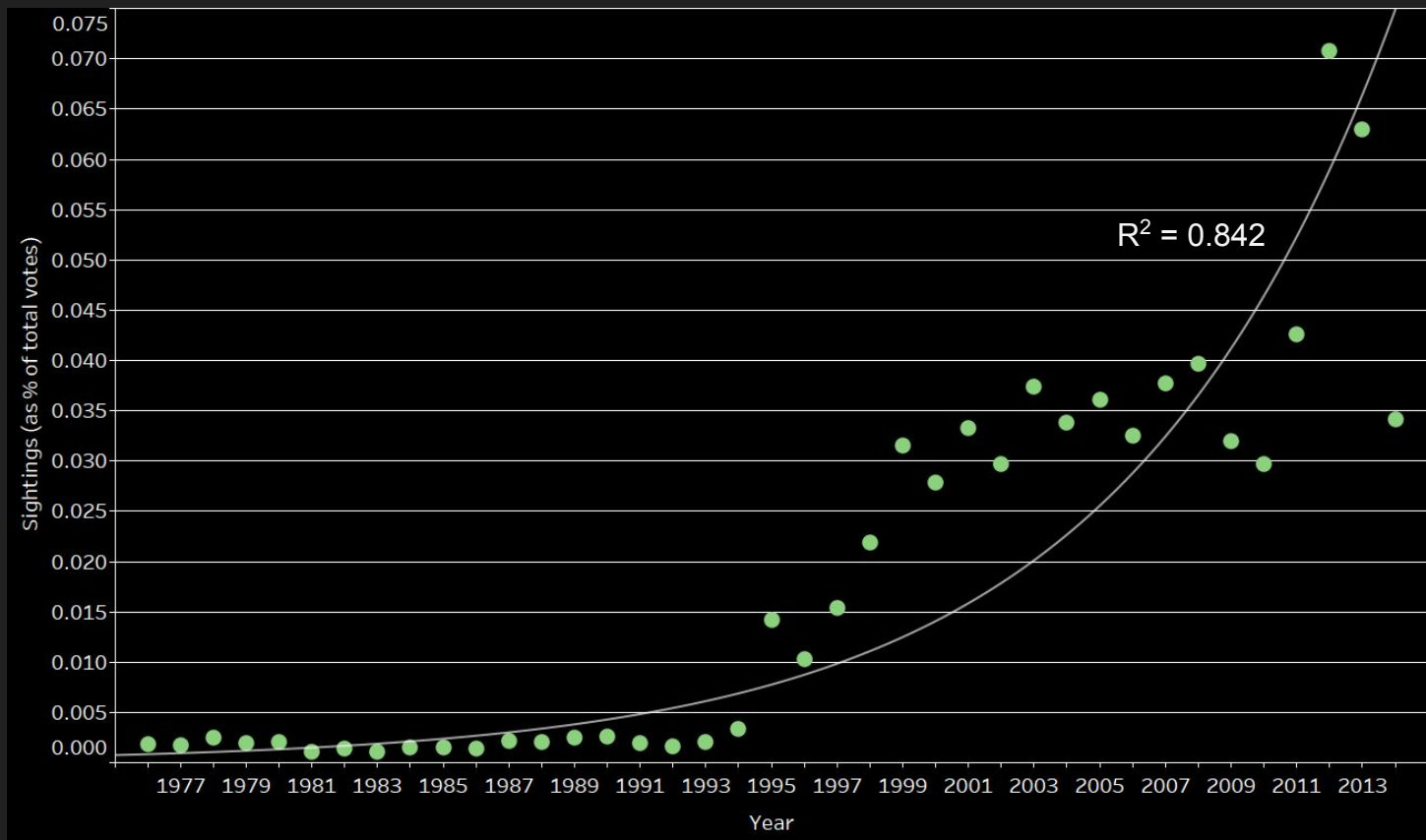
Sightings in the United States



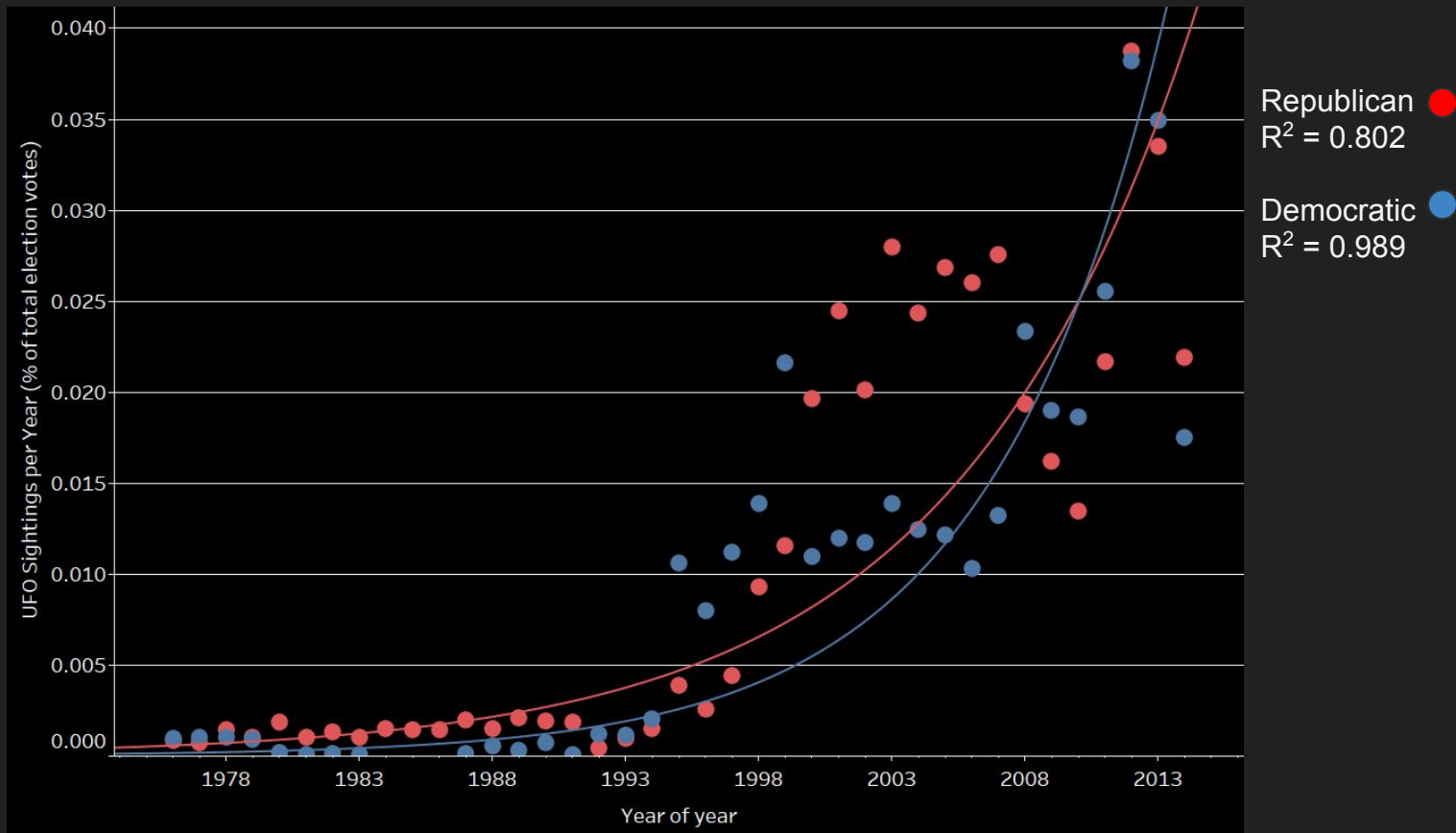
Sightings by Time of Day and Month of Year



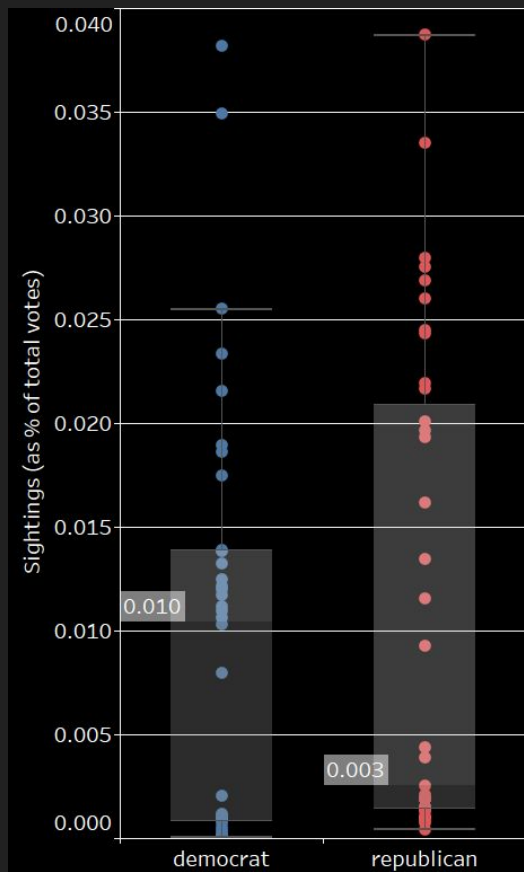
Sightings by Year



Sightings by Year and Political Party



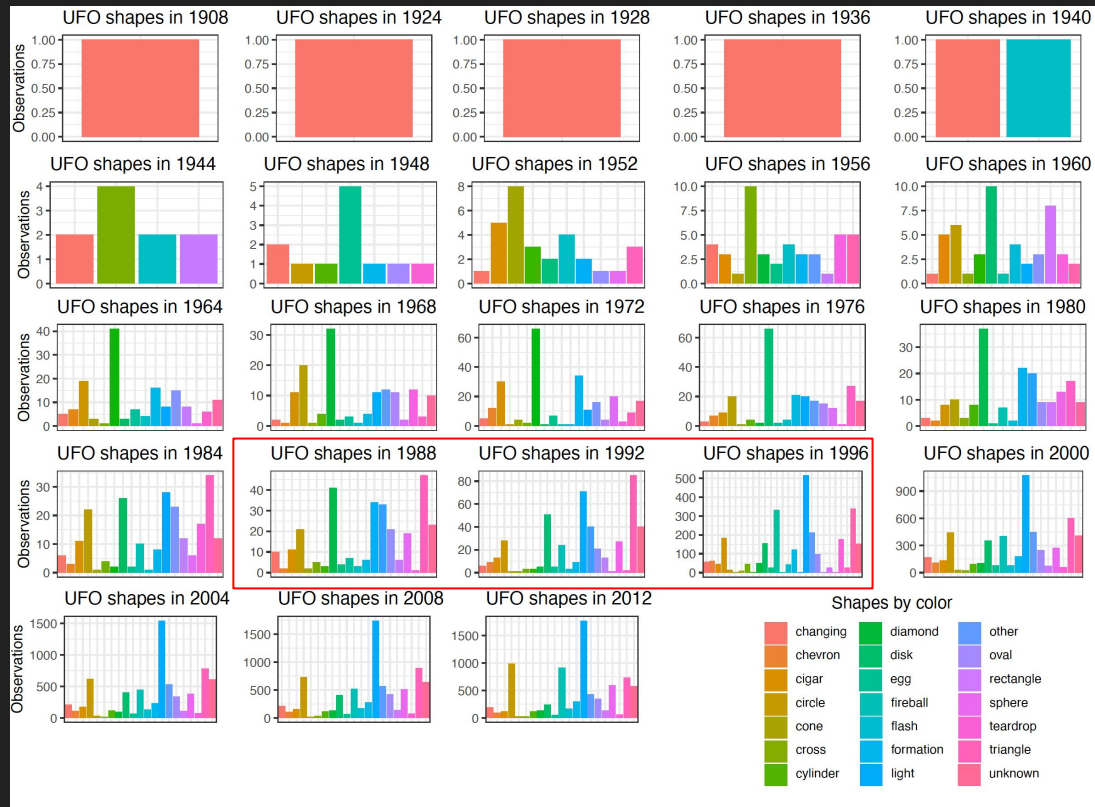
Sightings by Political Party



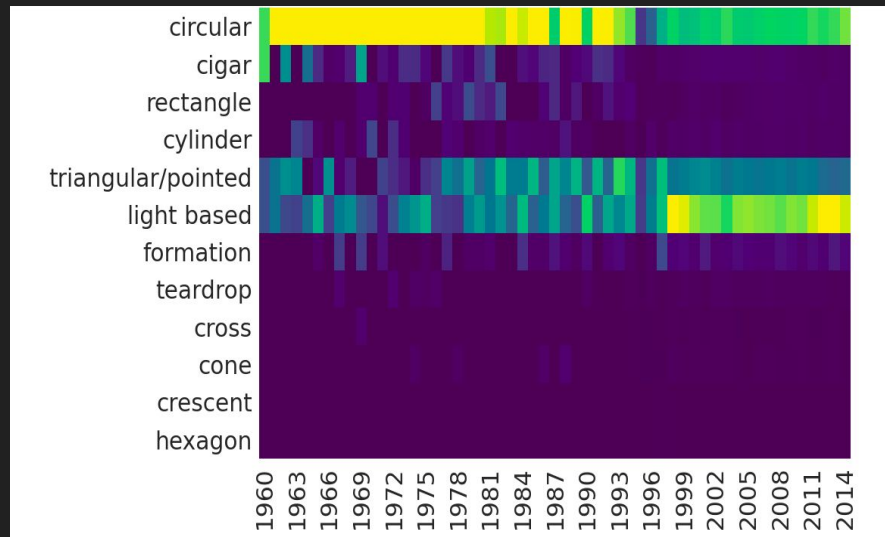
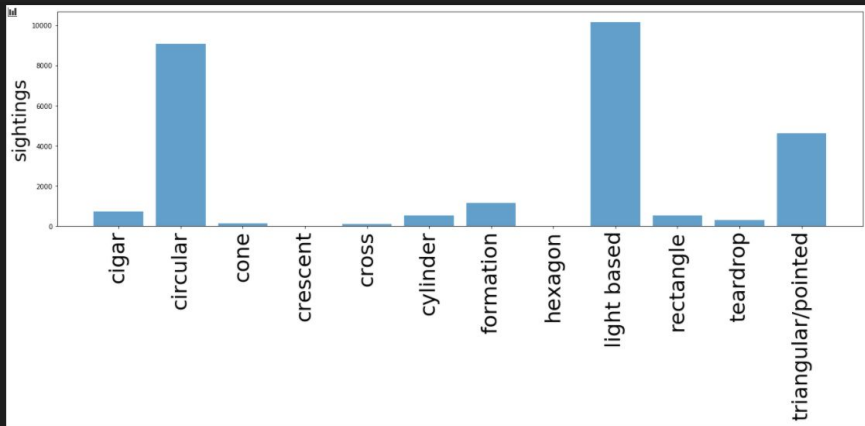
T Value	0.701
Two Sided P Value	48.542%

Republican ●
Democratic ●

Preliminary Exploration



Aggregating shapes



Classification - TFIDF vectorization on comments attribute

Pre 96 vs post 96

Svm

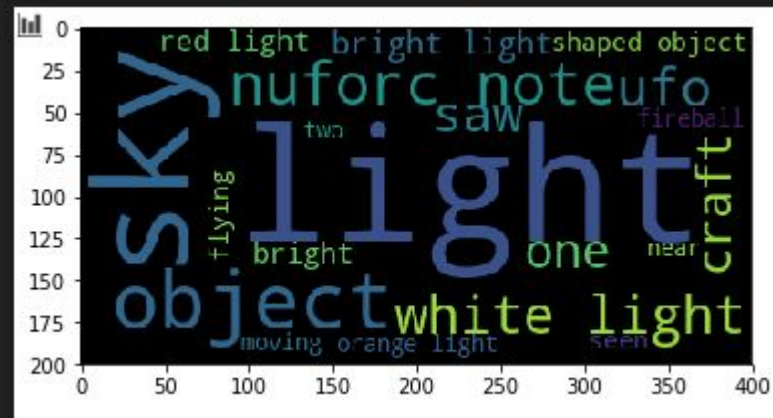
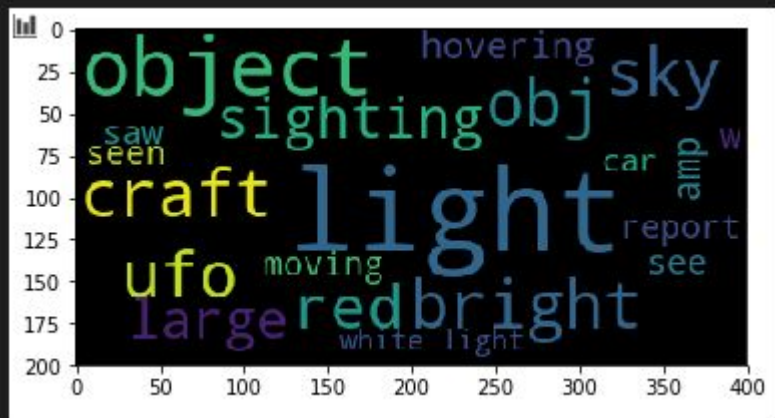
f	precision	recall	f1-score	support
post 96	0.97	1.00	0.99	4458
pre 96	0.56	0.07	0.13	136
accuracy			0.97	4594
macro avg	0.76	0.54	0.56	4594
weighted avg	0.96	0.97	0.96	4594

Mlp

	precision	recall	f1-score	support
post 96	0.97	0.98	0.98	4458
pre 96	0.16	0.13	0.14	136
accuracy			0.95	4594
macro avg	0.56	0.56	0.56	4594
weighted avg	0.95	0.95	0.95	4594

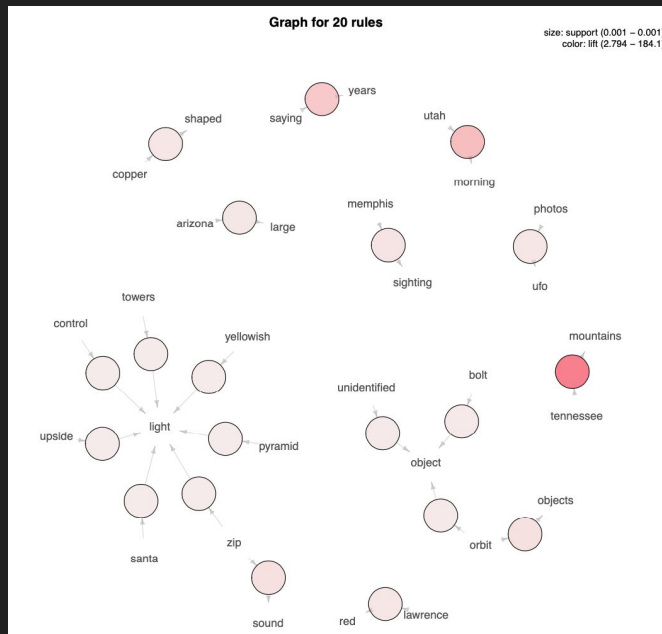
Word Cloud on comments attribute of UFO sightings dataset

Pre vs post 96

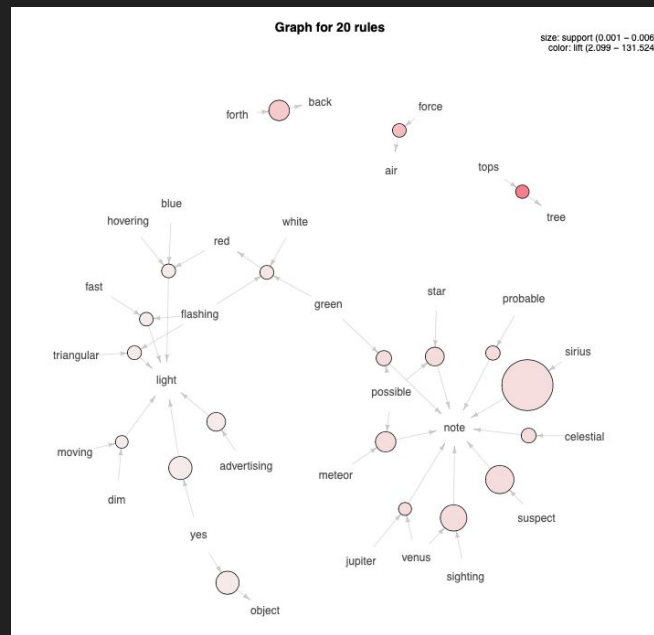


Apriori association rules

Association Rules for UFO sightings pre-1996

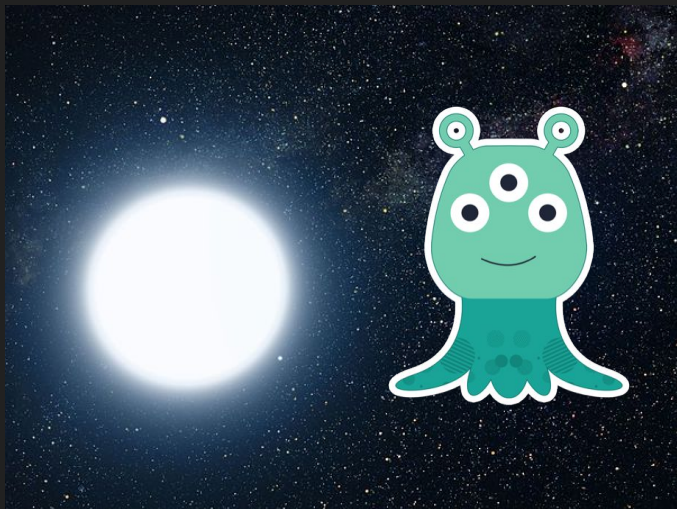


Association Rules for UFO sightings post-1996

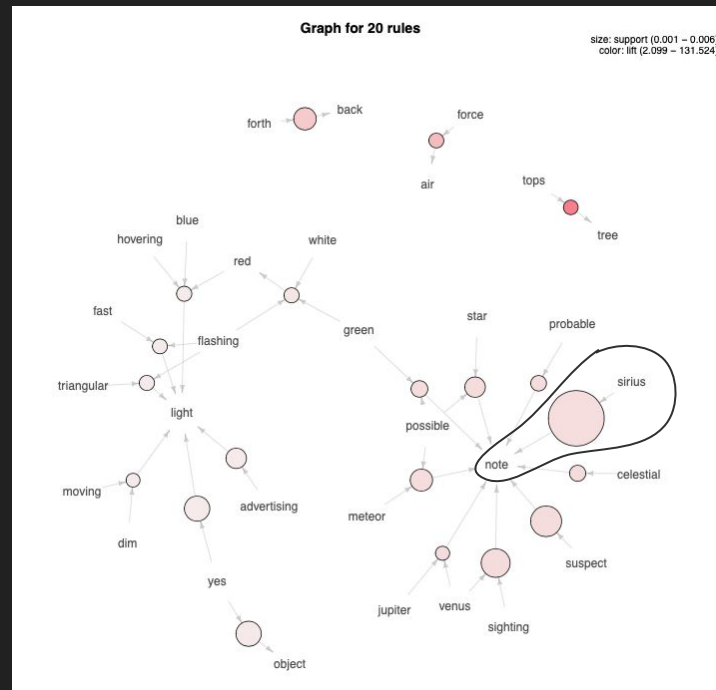


Results

- Internet boom in the 1990 could coincide with the change in how UFO sightings were reported
- Easier to spread misinformation and noise
- Patterns consistent with popular conspiracy theories
 - Half Asleep in Frog Pajamas (1994) by Tom Robbins




Association Rules for UFO sightings
post-1996



Impacts and Importance

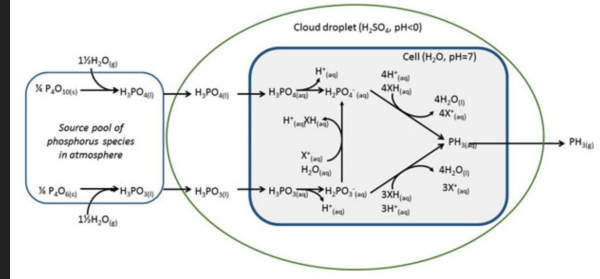
Phosphine gas in the cloud decks of Venus

Jane S. Greaves , Anita M. S. Richards, William Bains, Paul B. Rimmer, Hideo Sagawa, David L. Clements, Sara Seager, Janusz J. Petkowski, Clara Sousa-Silva, Sukrit Ranjan, Emily Drabek-Maunder, Helen J. Fraser, Annabel Cartwright, Ingo Mueller-Wodarg, Zhuchang Zhan, Per Friberg, Iain Coulson, E'lisa Lee & Jim Hoge

Nature Astronomy (2020) | [Cite this article](#)

Phosphine On Venus Cannot Be Explained By Conventional Processes

Source: astro-ph.EP | Posted September 14, 2020 10:47 PM  0 Comments



Life on Venus? Astronomers See a Signal in Its Clouds

The detection of a gas in the planet's atmosphere could turn scientists' gaze to a planet long overlooked in the search for extraterrestrial life.