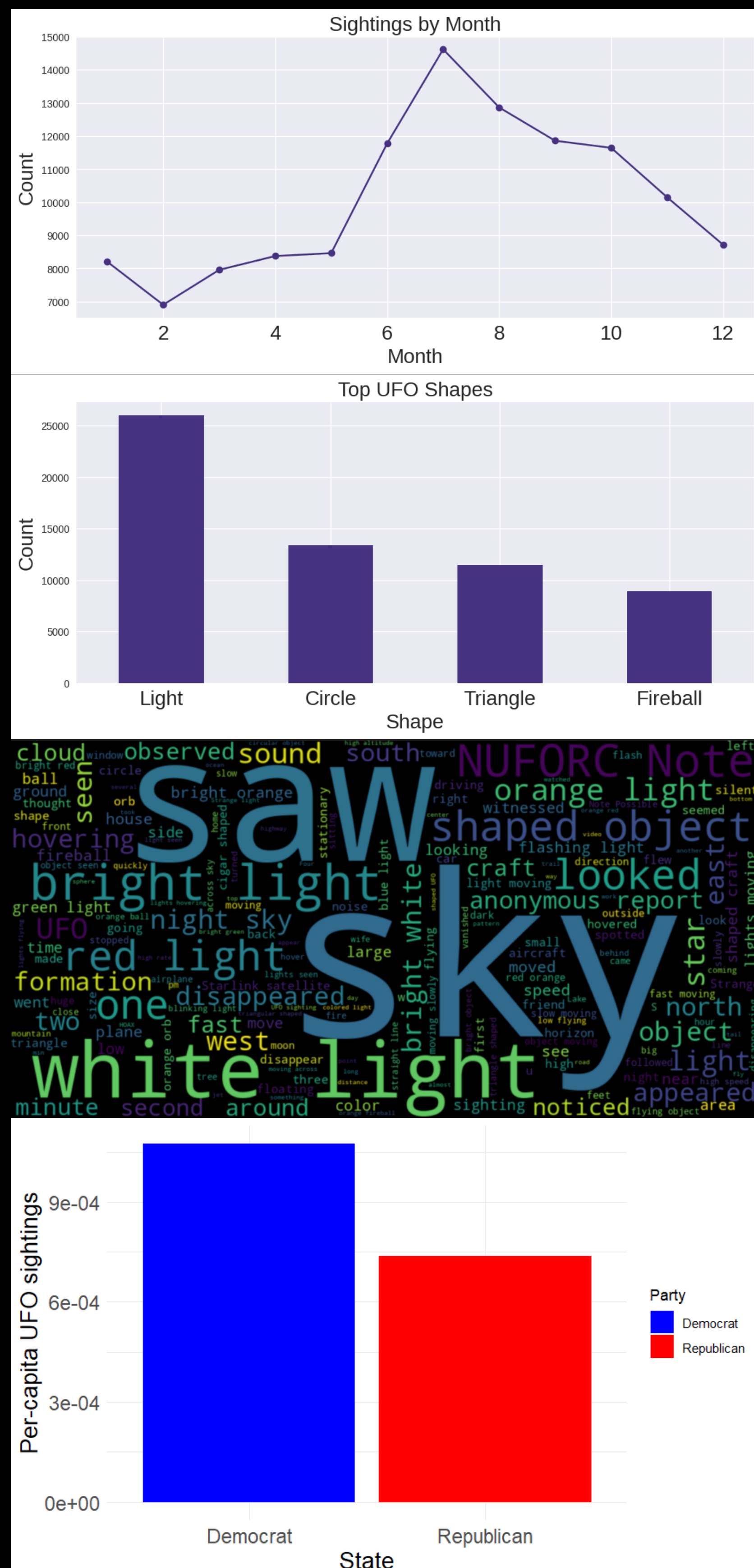


Introduction

UFO sightings have been a longstanding public fascination intersecting curiosity, imagination, and skepticism. Research on UFO reporting has suggested that belief frameworks, institutional mistrust, and environmental context influence how the public might classify any UFO-like events. Since the political behavior of states can influence belief systems and the spread of information, we wish to examine if a state's political party is associated with the frequency of UFO sightings.

Exploratory Data Analysis



The frequency of UFO sightings
differs significantly between states
of different political parties.

Sources Used

- **Political Map:** https://en.wikipedia.org/wiki/Red_states_and_blue_states
- **Background:** <https://www.pexels.com/photo/starry-sky-998641/>
- **NUFORC Dataset:** <https://www.kaggle.com/fireballbyedimyrnmom/ufo-sightings-1969-to-2019>
- **2020 Census:** <https://www2.census.gov/programs-surveys/decennial/2020/data/apportionment/apportionment-2020-table02.pdf>
- **UFO:** <https://elements.envato.com/cute-ufo-flying-in-space-cartoon-illustration-RBTL7EX>

Analysis

Wilcoxon-Mann-Whitney test: The per-capita sighting rate between Democratic and Republican states are significantly different ($p < 0.05$).

Chi-squared: There is statistically significant association between a state's political party and its UFO sighting level ($p < 0.05$). Democratic states are more likely to fall in the High-sighting category, while Republican states are more likely to fall in the Low-sighting category.

Poisson Regression: Democratic states have significantly higher UFO sighting counts than Republican states ($p < 0.001$). The coefficient (0.5) indicates that being a Democratic state is associated with an estimated 65% increase in expected sightings.

Party Sentiment: Preliminary comparisons of descriptors and sentiment scores did not reveal consistent or substantial divergences between Democratic and Republican states.

Conclusion

This study provides evidence that UFO sighting frequency differs across political contexts in the United States, with Democratic states exhibiting higher reporting levels than Republican states across multiple statistical tests. While political affiliation should not be construed as a causal determinant of sightings, it may serve as a proxy for broader cultural or behavioral influences on reporting practices.

Future research should incorporate population normalization, finer-grained political measures, and environmental variables to more precisely characterize drivers of UFO reporting behavior. Additionally, more advanced NLP techniques may yield deeper insights into subtle linguistic patterns across political or regional groups.