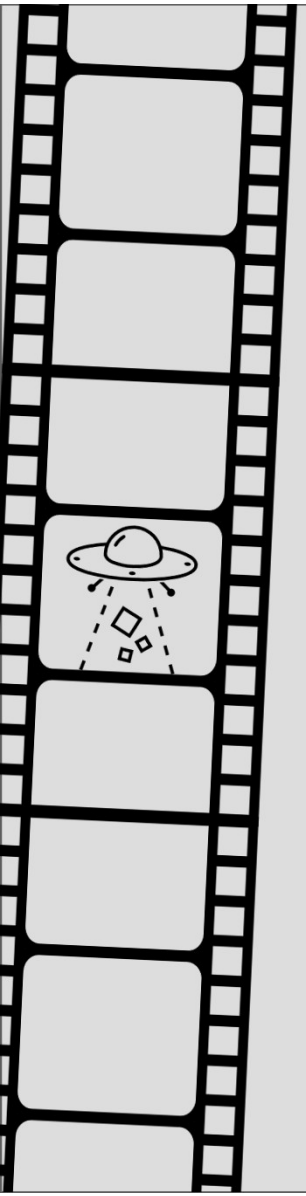


CAPSTONE PROJECT: UFO SIGHTINGS

Presented by Darrick

INTRODUCTION AND OBJECTIVES

DATA TRENDS AND INSIGHTS

INTERACTIVE DASHBOARD AND CHATBOT SHOWCASE

CONCLUSION AND NEXT STEPS

INTRODUCTION AND OBJECTIVES

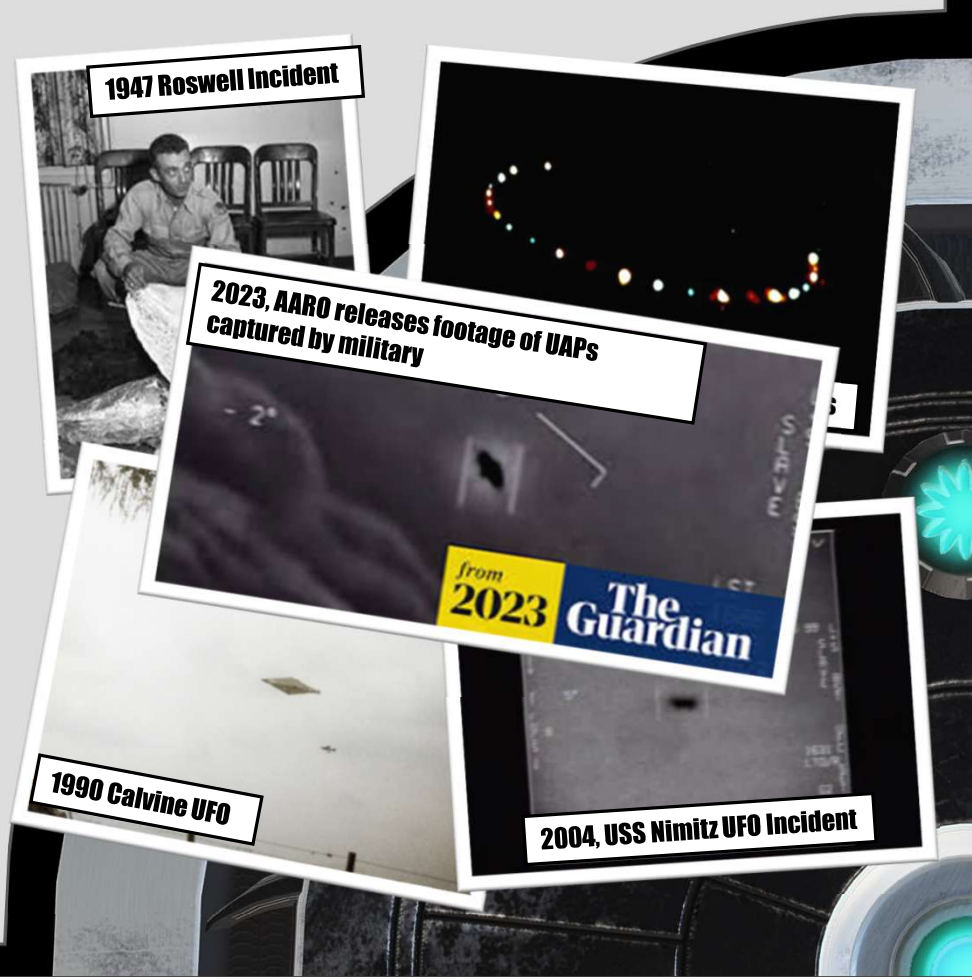
Introduction

UFO sightings have been reported across the **United States** for decades, sparking curiosity and debate among scientists, enthusiasts, and the general public. However, there has been limited systematic analysis of the data to understand key questions, such as:

- **Temporal Patterns** – Are there specific time periods or years with increased sightings in the U.S.?
- **Geographic Distribution** – Are certain states or regions more prone to UFO sightings?

Objectives

This project aims to systematically analyze UFO sighting reports within the United States to identify patterns, trends, and anomalies across time and geographic location, providing deeper insights into UFO activities.



INTRODUCTION AND OBJECTIVES

Data Source

Kaggle UFO Database (over 80K unique records)
https://www.kaggle.com/datasets/NUFORC/ufo-sightings

Data Scope

Country: United States
Rationale: The United States accounts for the highest volume of documented UFO sightings globally, representing over 80% of all reported cases.

Timeframe: 1990–2013
Rationale:

- Pre-1990 records show significantly fewer documented sightings
- Data for 2014, up till May only
- Records beyond database is locked behind website permissions

INTRODUCTION AND OBJECTIVES

Personas

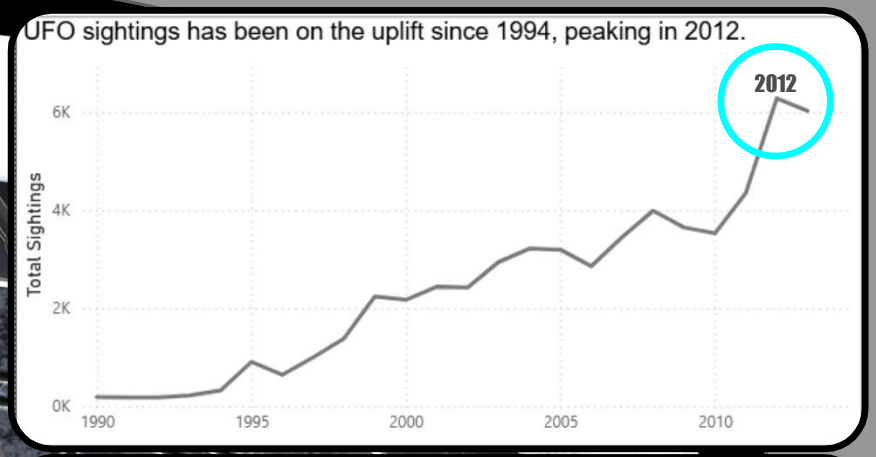
Dr. Jon Martinez, *Astrophysicist*
This target persona represents a highly technical, research-driven astrophysicist who would benefit from the UFO sightings capstone project's insights, making them an ideal audience for the final deliverables.

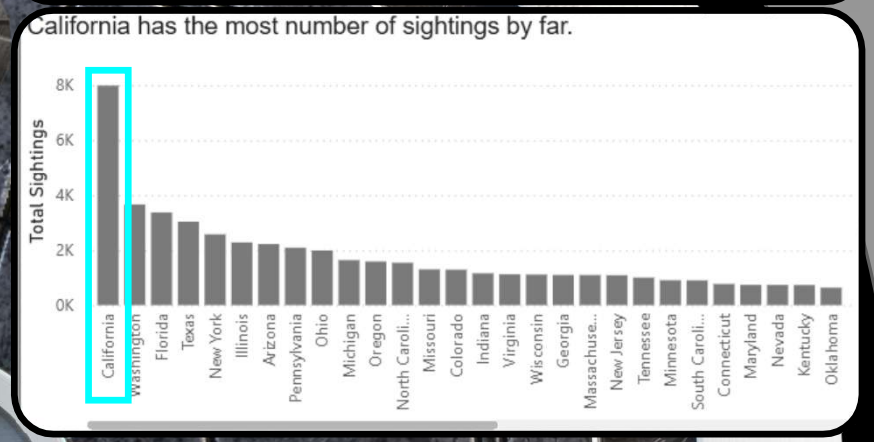
"The universe is full of mysteries. By analyzing UFO sightings scientifically, we can separate the explainable from the extraordinary and push the boundaries of our understanding."

Mia Thompson, *UFO Enthusiast*
This target persona represents a passionate, non-technical UFO enthusiast who would benefit from the UFO sightings capstone project's insights, making her an ideal audience for engaging and accessible deliverables.

"The truth is out there, and I want to help people see it. By combining data with storytelling, we can uncover the mysteries of the skies together."

DATA TRENDS AND INSIGHTS





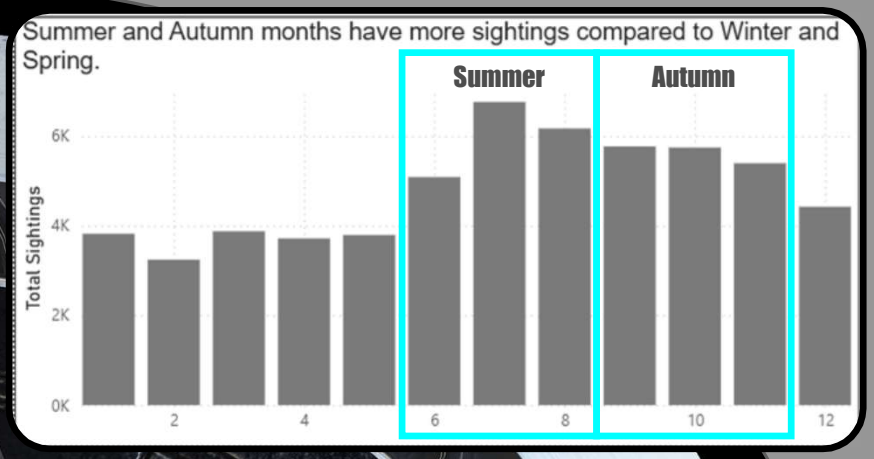
Increase in UFO sightings, peaking in 2012.

From 1990 to 2013, UFO sightings in the U.S. surged dramatically, reaching their highest point in 2012. During this period, California reported more incidents than any other state, solidifying its status as the nation's UFO hotspot.

The sharp rise in sightings, particularly around 2012, may be linked to growing public fascination, the widespread adoption of smartphones, and increased media attention. California's prominence could stem from its large population, dense air traffic, and a cultural openness to report unexplained phenomena. While many cases were later attributed to drones, aircraft, or natural occurrences, a significant number remain unresolved - fueling theories about extraterrestrial visitations or advanced military experiments.

This upward trend highlights both greater public awareness and the ease of reporting sightings through digital platforms.

DATA TRENDS AND INSIGHTS



Seasonal Patterns in UFO Sightings

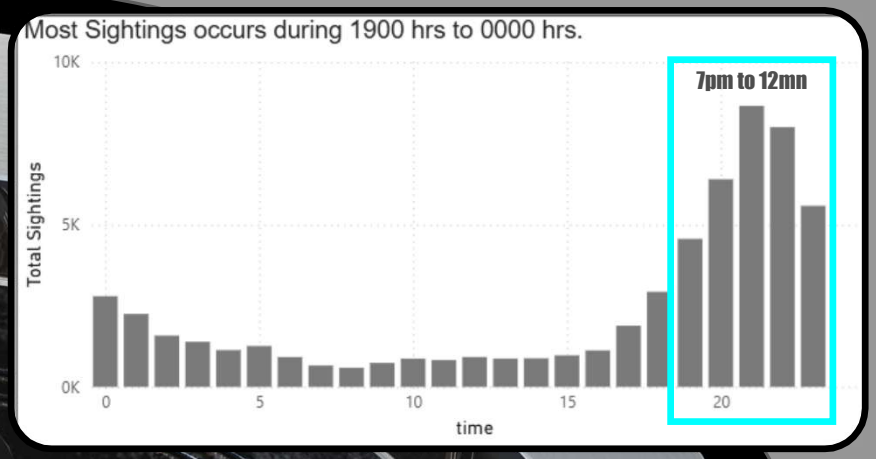
A clear seasonal pattern emerges in UFO sightings, with Summer and Autumn - particularly June through November - consistently recording higher numbers compared to Winter and Spring. July stands out as the peak month, suggesting a strong correlation between warmer weather and increased reports.

Factors that may explain this trend:

- Vacation periods and more outdoor activity during Summer and Autumn
- Better atmospheric conditions and clearer nighttime skies, making it easier to spot unusual aerial phenomena.

While some attribute the seasonal spike to increased drone use or celestial events, the recurring Summer-Autumn pattern suggests that weather, human behavior, and environmental factors all play a role. This trend highlights the need for further analysis of how seasonal variations influence UFO reports.

DATA TRENDS AND INSIGHTS

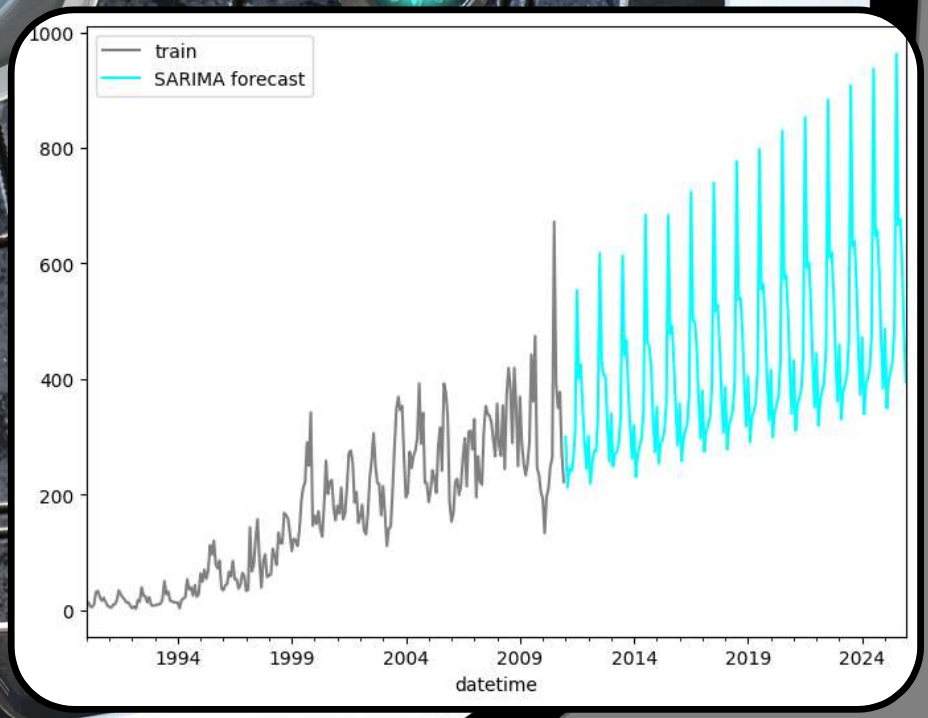


Peak Hours for UFO Sightings

Most UFO sightings occur between 1900 and 0000 hours (7:00 PM to midnight), with a sharp rise in reports during these key evening hours.

This pattern may be linked to human activity; more people are outdoors during this time, whether commuting, socializing, or stargazing, hence increasing the chances of spotting unusual aerial phenomena. Additionally, the contrast between dark skies and artificial lights from cities or aircraft may make strange objects more noticeable.

While many sightings are later attributed to planes, drones, satellites, or astronomical events, the consistent clustering of reports in the evening hours raises intriguing questions. Does this pattern reflect human perception biases, or could certain environmental or even anomalous factors make UFOs more likely to be seen during these hours?



Conclusion

The predictive model suggests a significant rise in UFO sightings in the coming years, with California remaining the primary hotspot. July consistently shows the highest surge in sightings, aligning with summer weather patterns that encourage outdoor observation. Additionally, reports are most frequent between 7 PM and midnight, likely due to increased human activity and optimal visibility conditions.

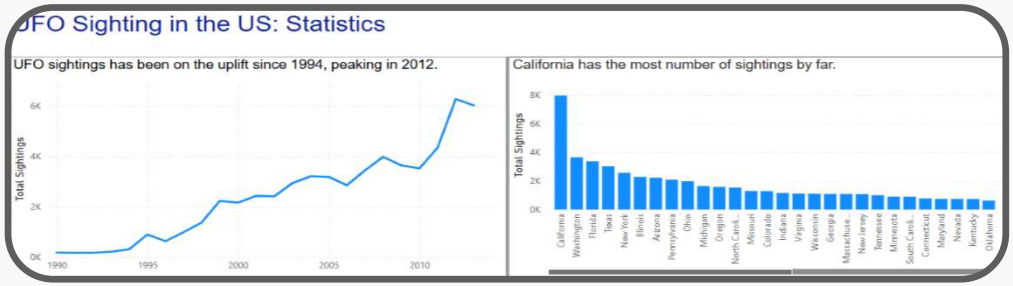
Next Steps

- **Acquire Updated Data** – Since the current Kaggle dataset only extends to 2014, securing access to NUFORC's (National UFO Reporting Center) latest records would provide more recent and comprehensive insights.
- **Broaden Geographic Scope** – Expanding the analysis beyond the U.S. to include global UFO sighting trends could reveal new patterns or corroborate existing ones.

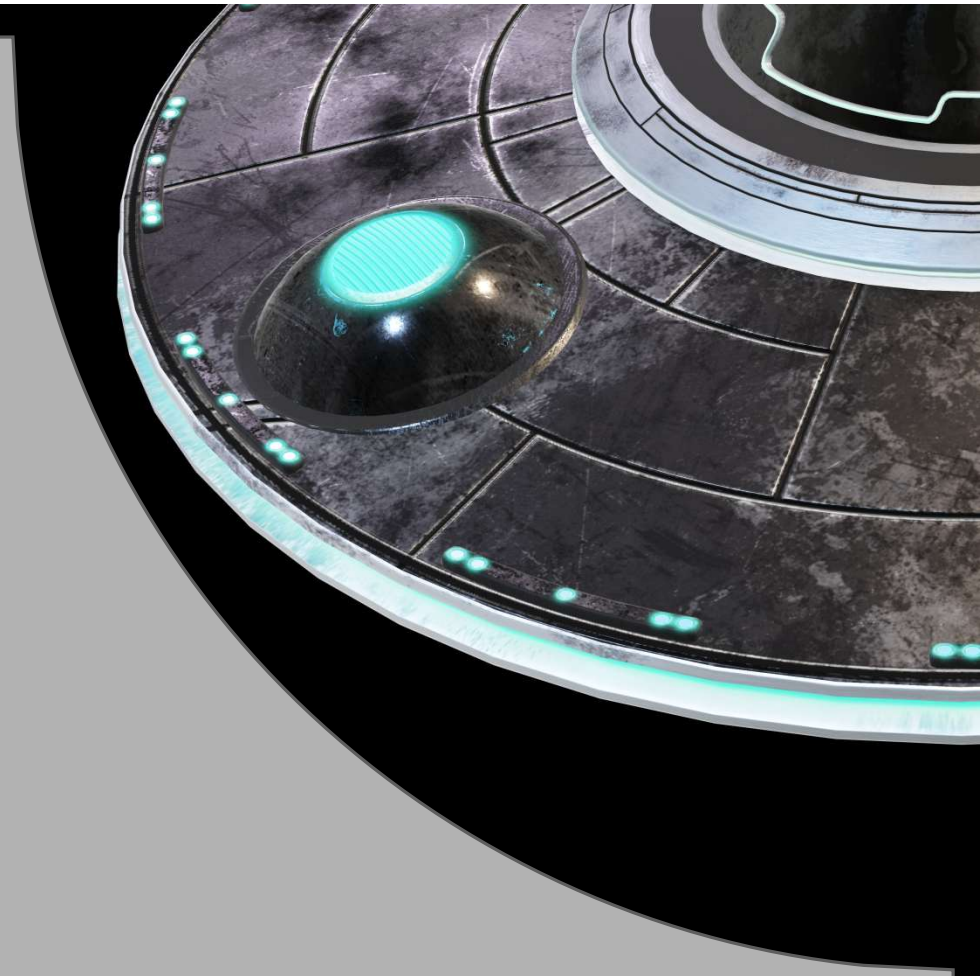
CONCLUSION AND NEXT STEPS

Interactive Tools Showcase

Interactive Dashboard



Interactive Chatbot



INTERACTIVE DASHBOARD AND CHATBOT SHOWCASE

Q&A

THANK YOU!