Risk Assessment for Aircraft Purchases

Overview

- This project uses data cleaning, imputation, analysis, and visualization to generate insights for the company, which aims to expand into new industries.

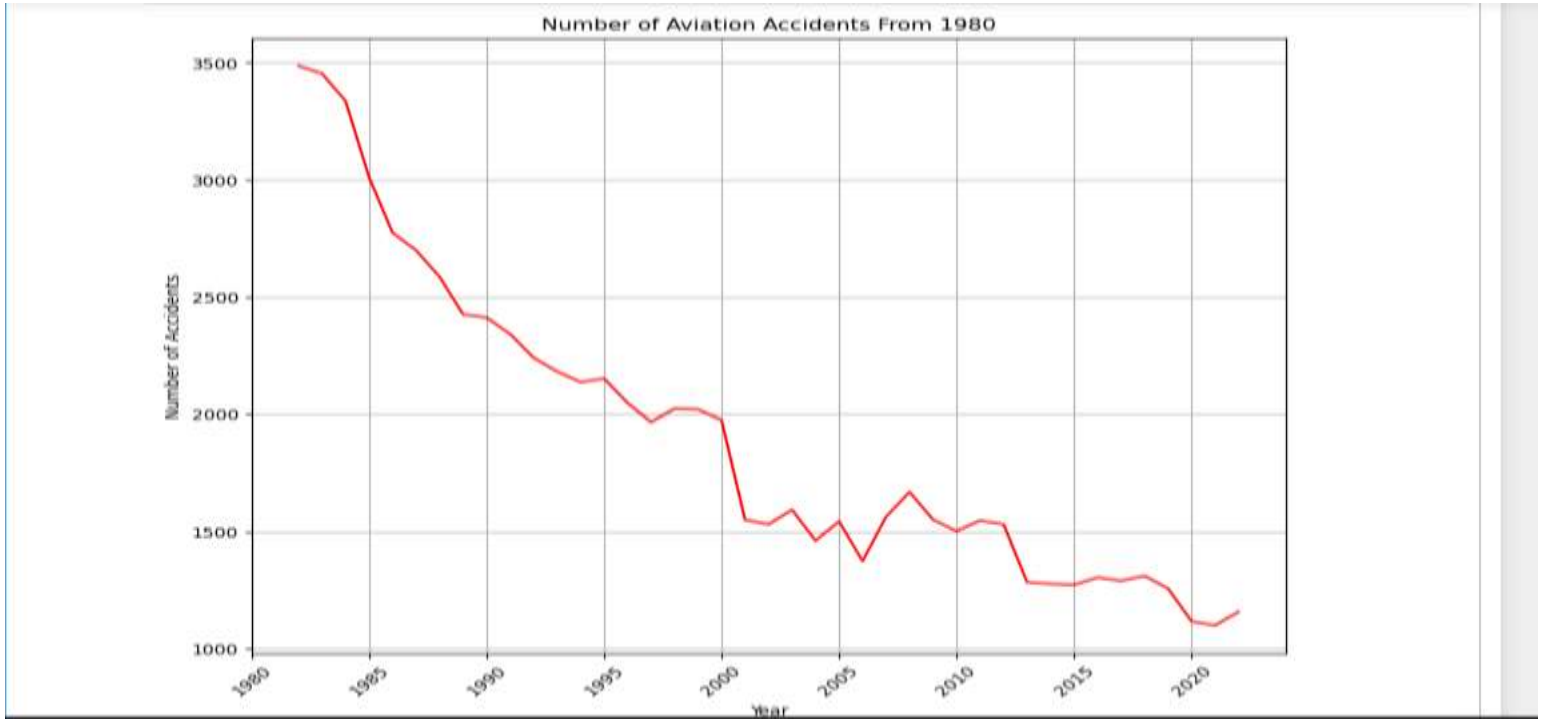
Business Understanding

- **Main Objective:** Recommend low-risk aircraft for purchase based on data analysis.
- **Supporting Objectives:**Analyze accident trends over time.
- Identify high-risk flight phases.
- Pinpoint states with frequent incidents.
- Evaluate seasonal accident patterns.
- Assess the impact of weather conditions on accidents.

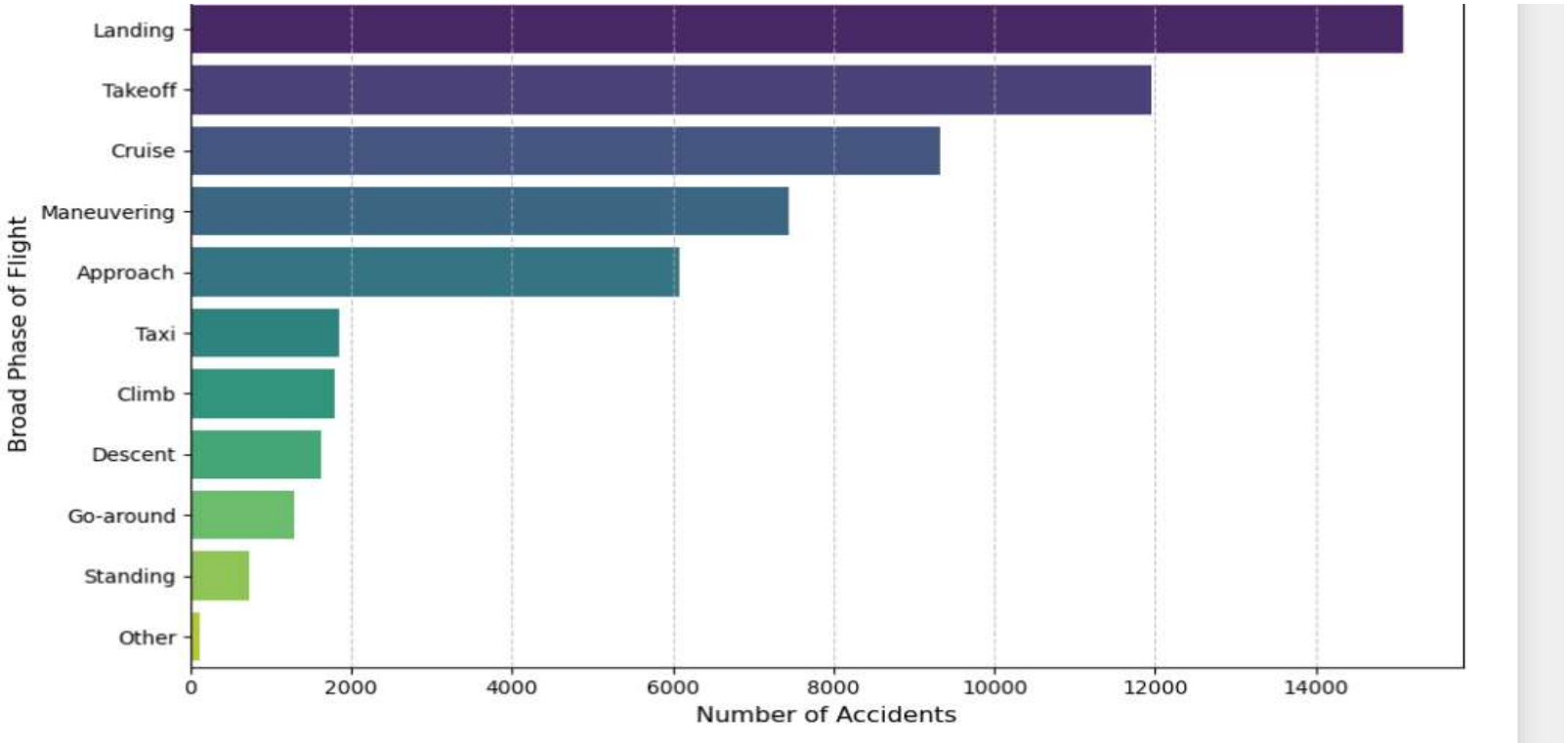
Data Analysis Methods

- **Technologies Used:**
- **Python Libraries:** Pandas, Matplotlib, Seaborn.
- **Analysis Techniques:**
- Univariate analysis for understanding distributions.
- Bivariate and multivariate analysis for uncovering relationships.
- Visualizations to present complex data in an accessible format.

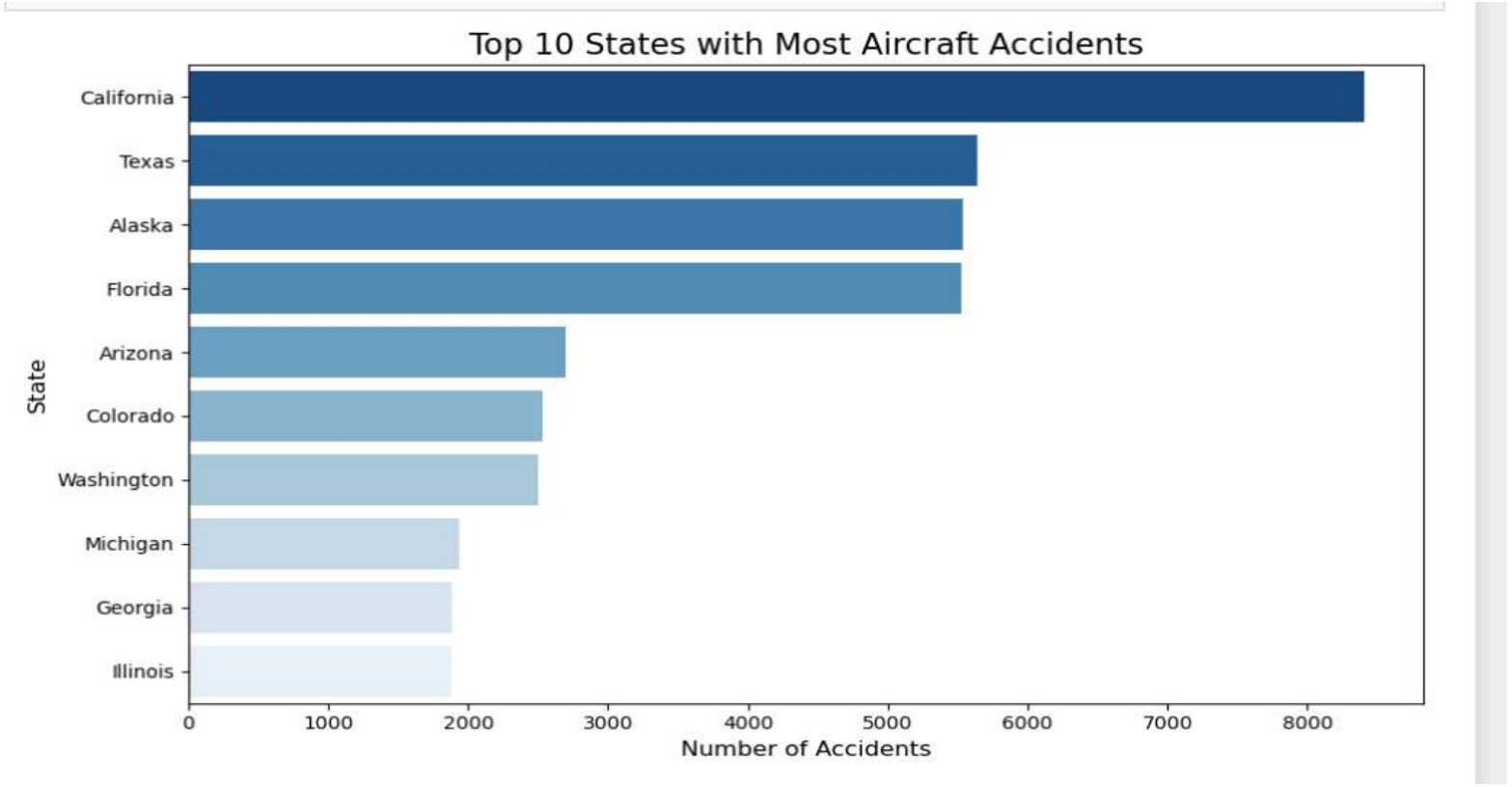
Visualization 1: Accident Trends by Year



Accidents by broad phase of flight



States with most accidents



Conclusion

- California has the highest number of aircraft accidents, significantly ahead of other states
- The landing phase is the most accident-prone phase.