Aviation Risk Analysis Presentation

Overview

- Introduction to the project
- Objective: Identify the safest aircraft for commercial and private operations
- Importance: Reducing investment risks in aviation

Business Understanding

- The company is expanding into the aviation industry
- Need to assess aircraft risk before purchasing
- Goal: Identify low-risk aircraft based on accident data

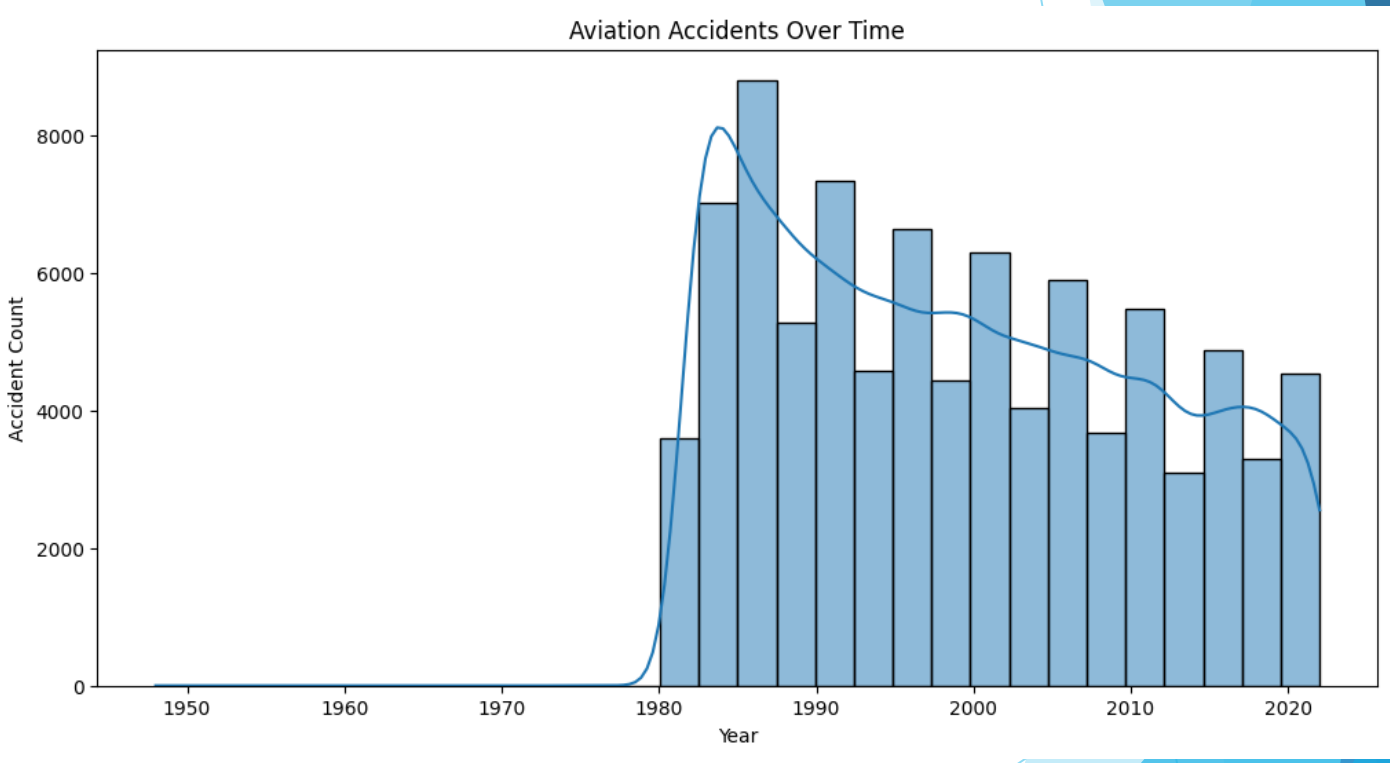
Data Understanding

- Source of aviation accident data
- Key features analyzed: aircraft type, manufacturer, geographical regions.
- Data preprocessing steps (handling missing values, formatting dates, etc.)

Accident Trends Over Time

Visualization: Yearly accident trend

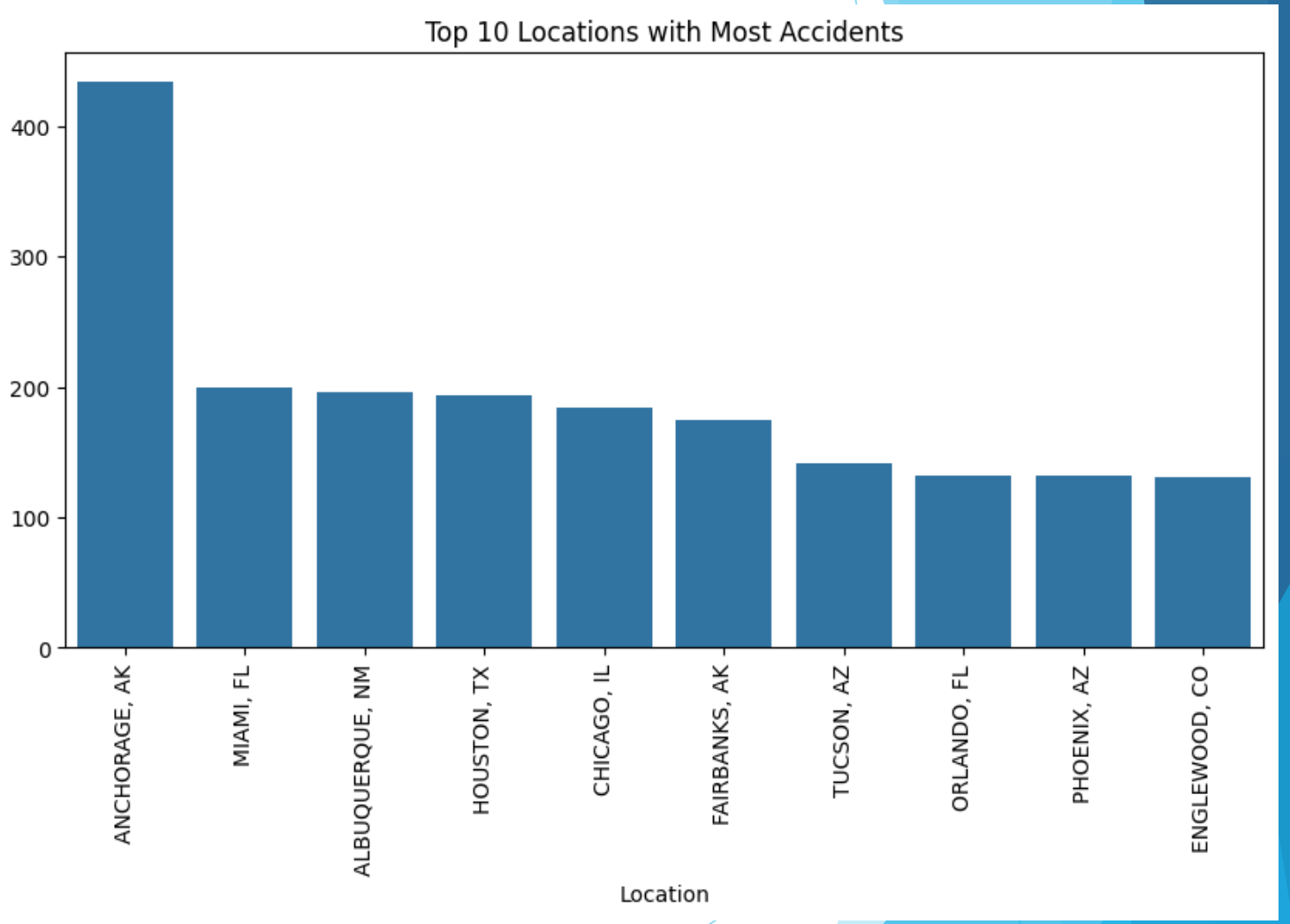
Insight: Identifying periods of high accident rates



Geographical Distribution

- Visualization: Top locations with the most accidents

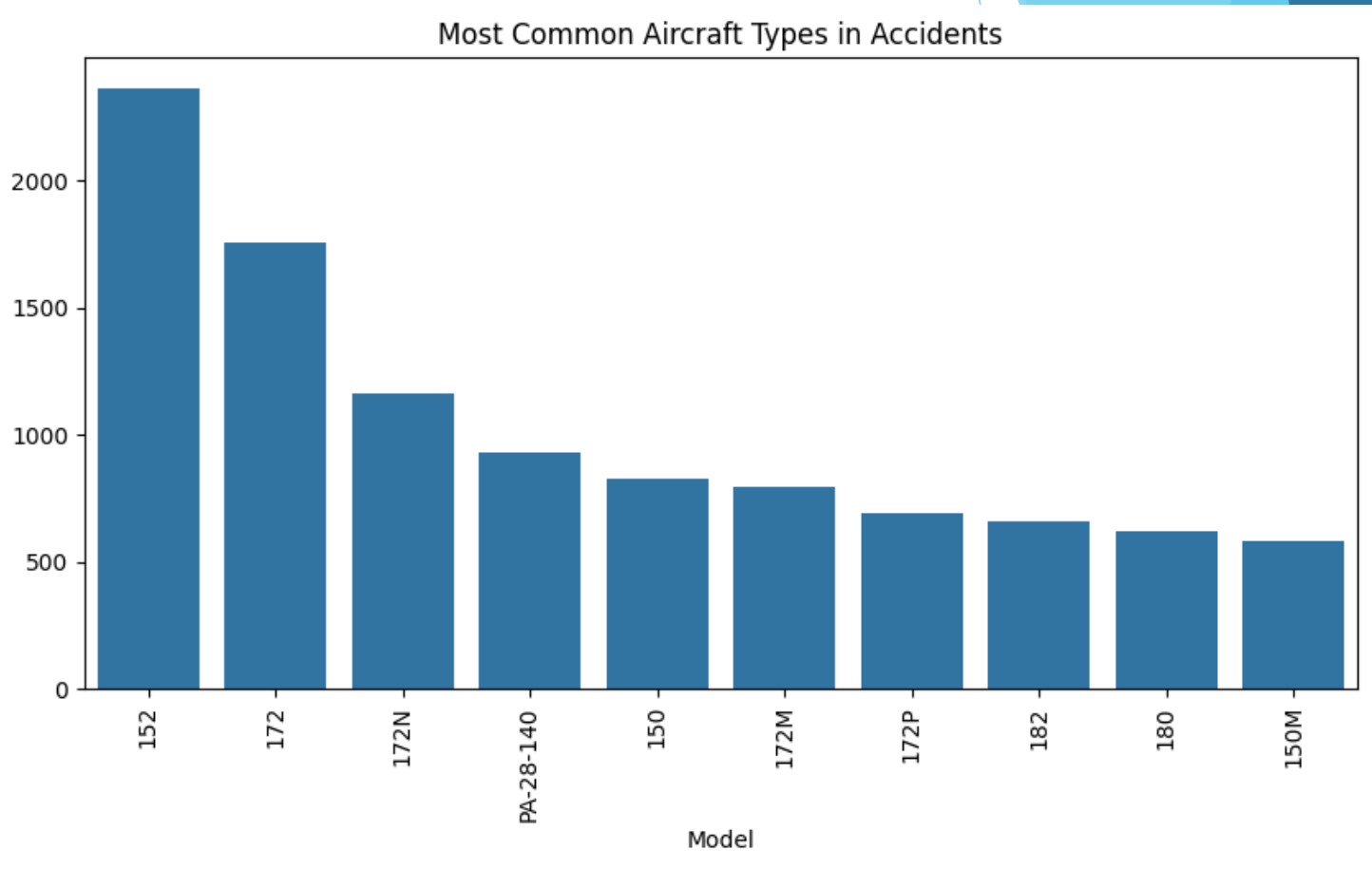
- Insight: Highlighting regions with higher aviation risks



Safety Analysis

- Visualization: Accident rates by aircraft type

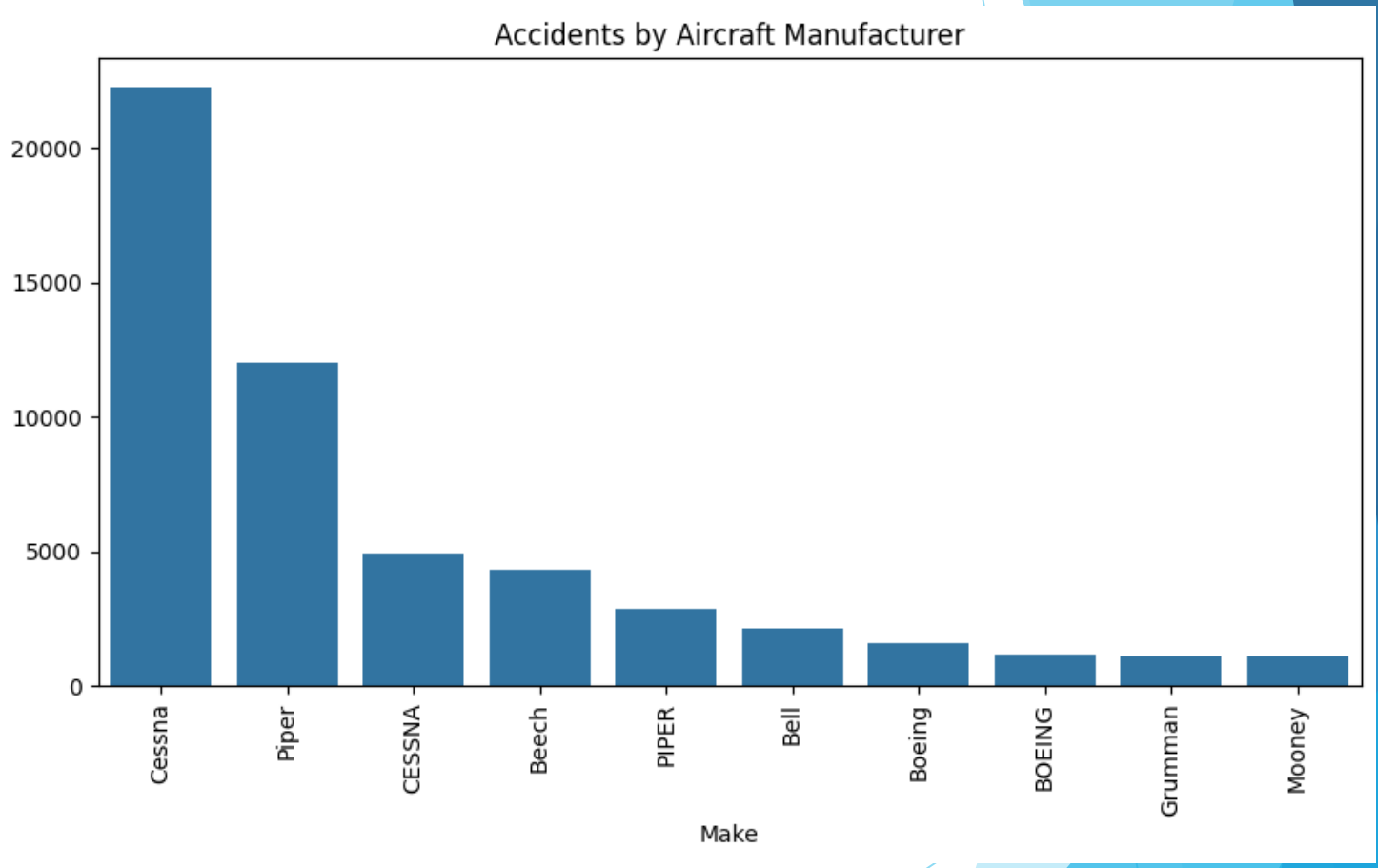
- Insight: Determining the safest aircraft models



Manufacturer Risk Assessment

- Visualization: Accidents by manufacturer

- Insight: Identifying manufacturers with higher/lower accident rates



Recommendations

Suggested Aircraft Models for Investment:

- **Model 150M** – Demonstrates a strong safety record based on historical accident data.

Manufacturers with the Best Safety Track Record:

- **BOEING, Gruman and Mooey** – Consistently shows lower accident rates compared to competitors, making it a reliable choice for investment.

Regions with higher aviation risks

- It’s best to avoid regions like ACHORAGE, ak due to the high rates of accidents in the area.

Strategies to Minimize Operational Risks

- Implement rigorous **pilot training programs** to reduce human errors.
- Ensure **regular aircraft maintenance** to prevent mechanical failures.
- Use **real-time data monitoring systems** for proactive safety management.