Presentation Title: Data-Driven Insights for Aviation Risk Assessment

- **Title:** Data-Driven Insights for Aviation Risk Assessment
- **Subtitle:** Informing Aircraft Purchase Decisions
- **Presenter:** Jeptoo Nightingale
- **Date:** [29/04/2025]

Slide 2: Project Overview

- **Title:** Project Overview
  - The project analyzes aviation accident data to provide insights for Aviation Company X expansion into the aviation sector.
  - The primary goal is to determine the lowest-risk aircraft for commercial and private operations.
  - Findings will guide aircraft purchase decisions by the head of the new aviation division.

Slide 3: Business Problem

- **Title:** Business Problem
  - Aviation Company X is expanding into the aviation industry.
  - The company lacks knowledge about potential aircraft risks.
  - There's a need to identify safe aircraft for purchase and operation.

Slide 4: Data Understanding

  - Data Source: NTSB Aviation Accident Database (1962-2023)
  - Dataset Description: Civil aviation accidents in the United States and international waters.
  - Key Columns: [List key columns used in the analysis, e.g., Make, Model, Total.Fatal.Injuries, Purpose.of.flight, etc.]

Slide 5: Aircraft Make Analysis

- **Title:** Top 10 Aircraft Makes by Accident Count

Number of Accidents by Aircraft Make (Top 10)
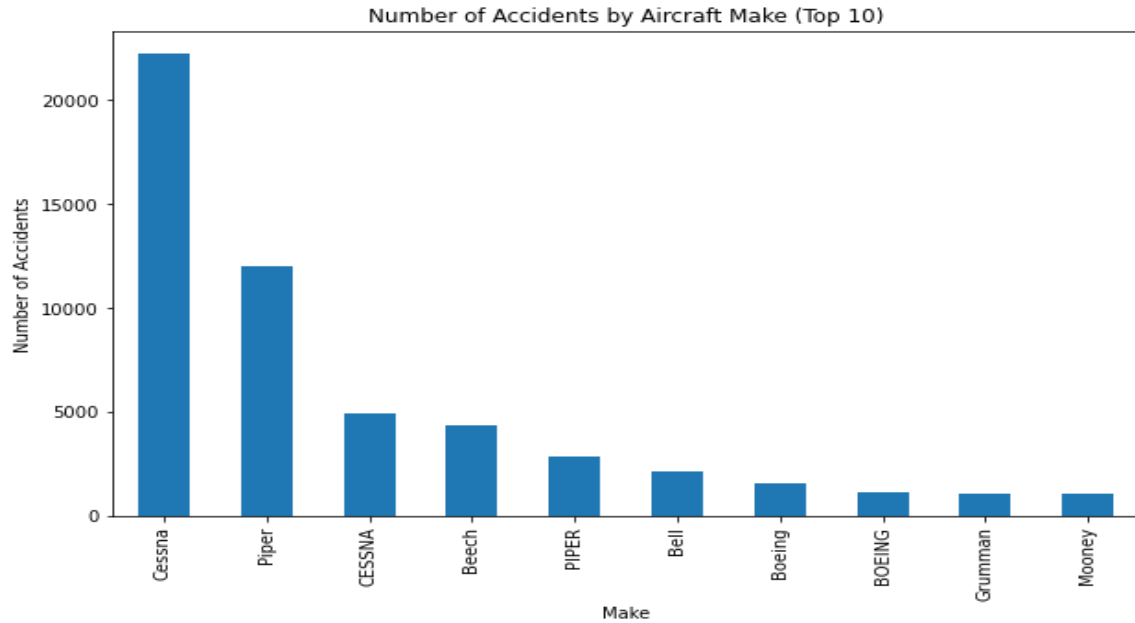
Key Insights

- ○ Cessna aircraft have the highest number of accidents.
- ○ Piper aircraft have the second-highest number of accidents.
- ○ Other makes (e.g., Beech, Bell, Boeing) have significantly fewer accidents.

Slide 7: Recommendations

 1: Exercise caution with Cessna and Piper aircraft due to their higher accident rates. Conduct deeper analysis on specific models.
2: Consider aircraft makes with lower accident rates (e.g., BOEING) for initial commercial operations.
- ○ **3:** Prioritize detailed analysis of accident severity and causes for shortlisted aircraft to further refine risk assessment.

Slide 8: Next Steps

- ○ Analyze accident rates by specific aircraft models.
- ○ Investigate the relationship between accident causes and aircraft makes.
- ○ Evaluate the impact of the purpose of flight on accident risk.
- ○ Consider other factors like maintenance costs and fuel efficiency in the final decision.

Slide 9: Q&A

- ● **Title:** Questions & Answers