Aviation Safety Analysis

Project Title: Aviation Data Analysis Phase 1

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Business Problem

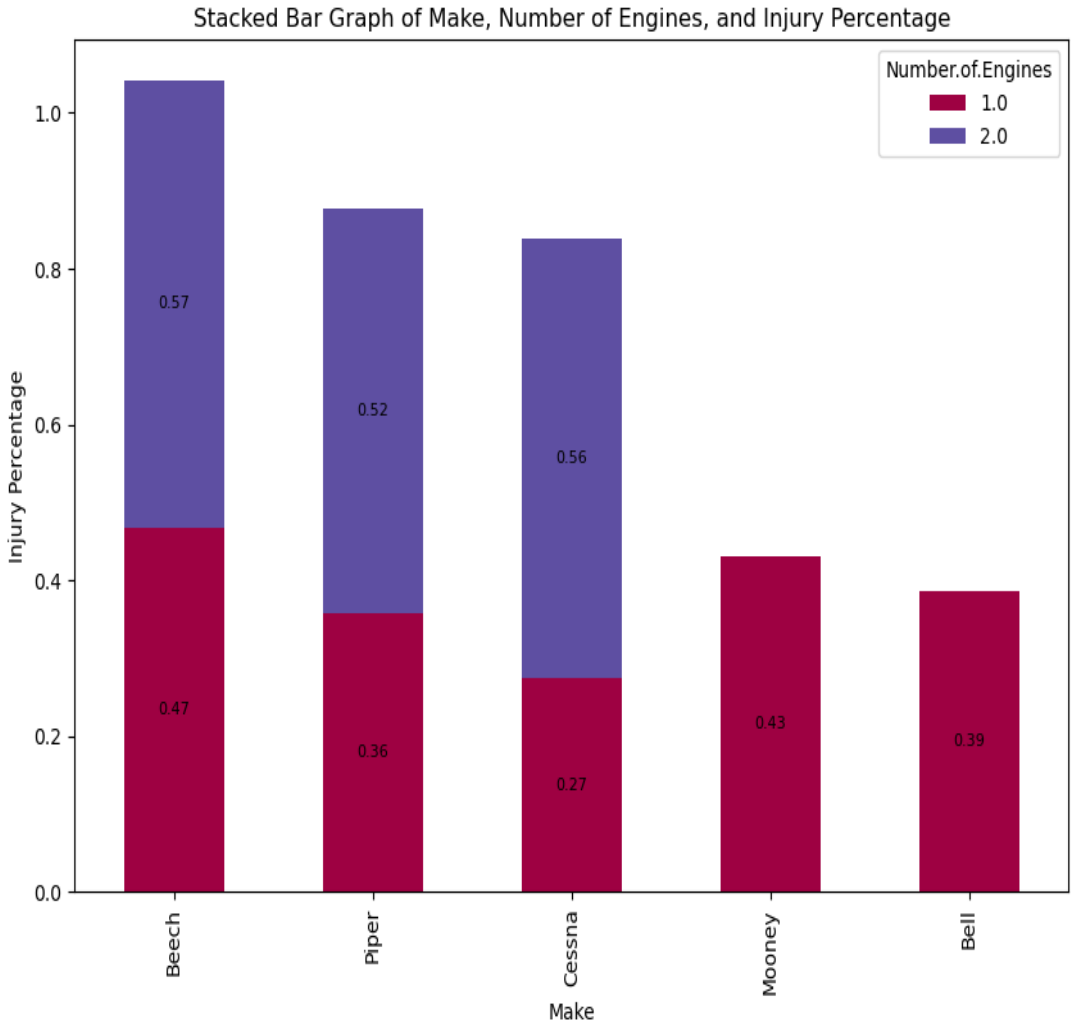
- Explore aviation industry for potential expansion and investment opportunities.
- Analyze historical data on aircraft incidents and accidents.
- Identify safest aircraft makes, models, and engine types.
- Determine most critical phases of flight for safety enhancement.

Data Overview & Methodology

- **Dataset Source:** Utilizes NTSB data from 1962 to 2023 on civil aviation accidents and incidents.
- **Analysis Steps:** Data cleaning, exploratory data analysis (EDA), and statistical analysis.
- **Tools & Techniques:** Employed statistical tools and visualization techniques to identify safety insights.

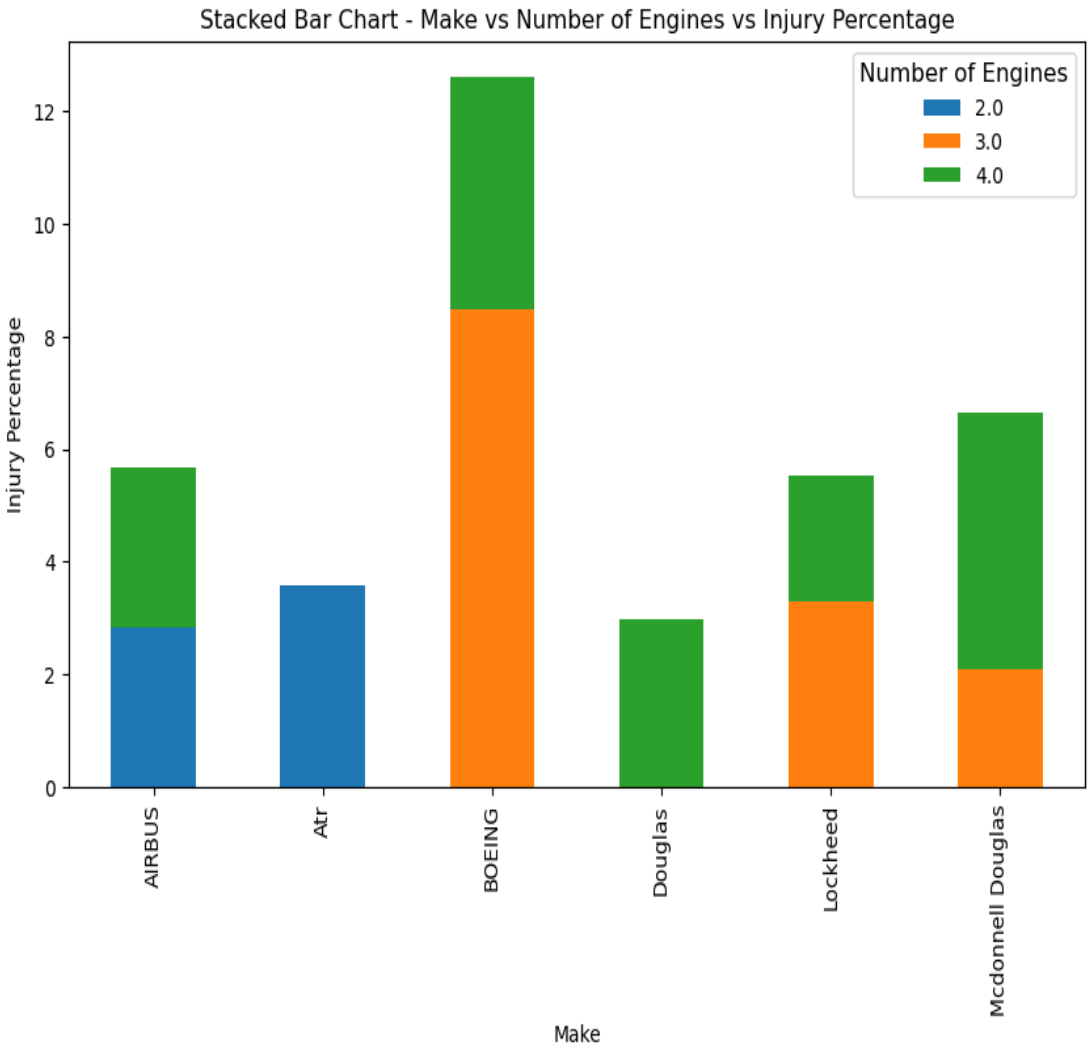
Personal Aircraft Selection

- Cessna (1-engine) and Piper (2-engine) have the lowest injury percentages, suggested for personal use.



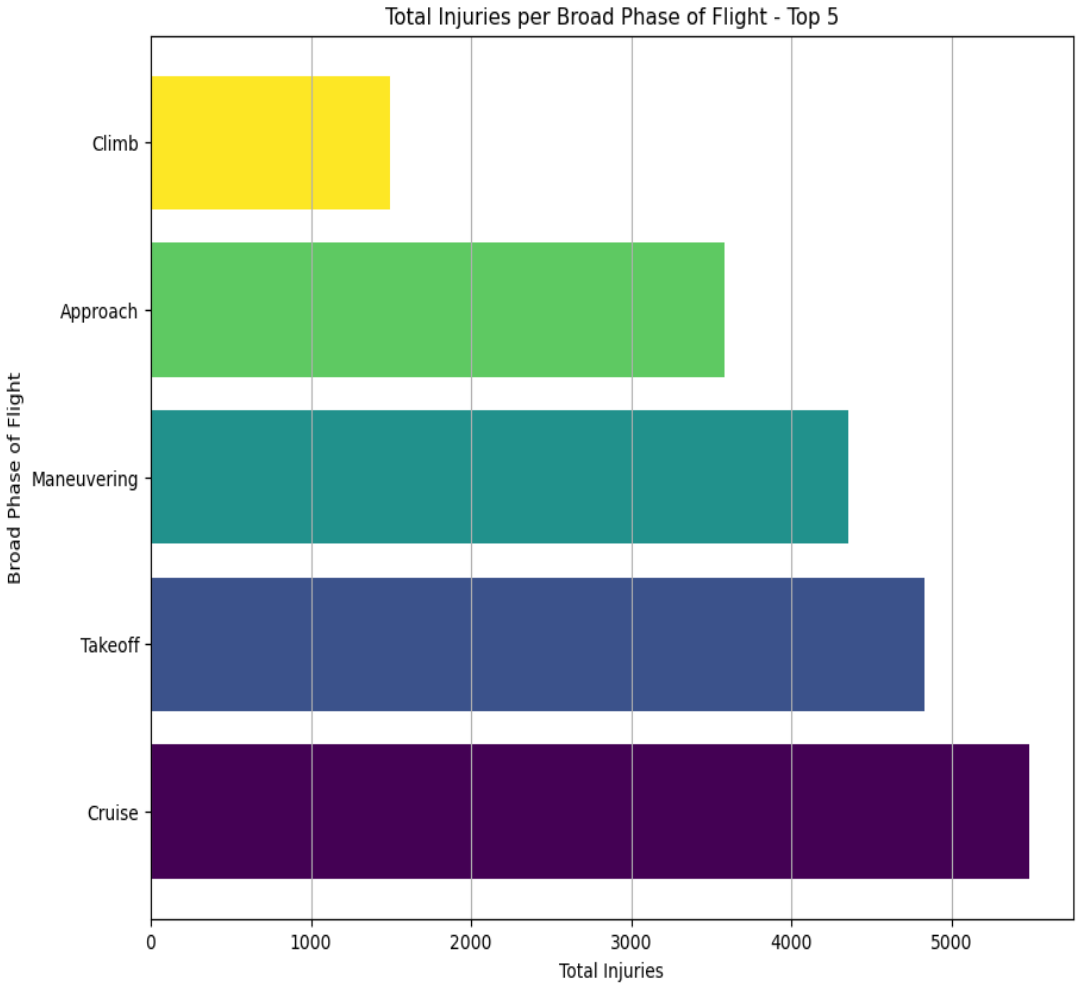
Commercial/Military Aircraft Selection

- Airbus recommended for commercial use
- Lockheed for military use, based on lower injury rates.



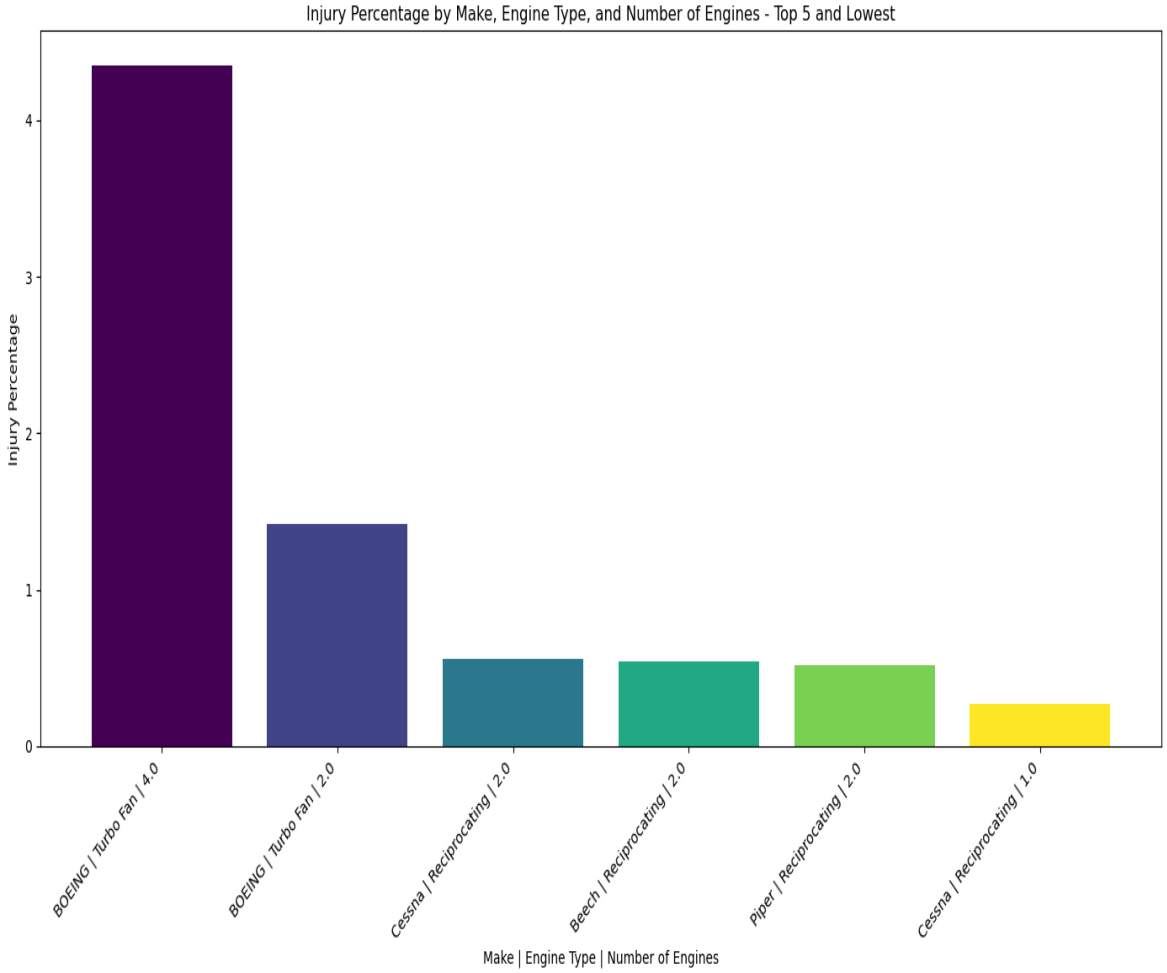
Phase of Flight Analysis

- Cruise, Takeoff, and Maneuvering have highest injury rates



Engine Type Safety

- Cessna Reciprocating 1-engine planes safest given incident rates.



Conclusion & Recommendations

1. **Comprehensive Risk Assessment:** Broaden analysis to include more aircraft types, maintenance history, and operational performance.
2. **Advanced Accident Prediction:** Employ machine learning for accident and injury likelihood prediction.
3. **Training & Safety Program Evaluation:** Review and enhance training and safety programs, focusing on high-risk flight phases and aircraft types.

Q&A

- Open floor for questions and further discussion.