

Aviation Safety Risk Analysis

Flatiron Phase 1 Project

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Project Overview

Business Goal: Recommend low-risk aircraft for investment

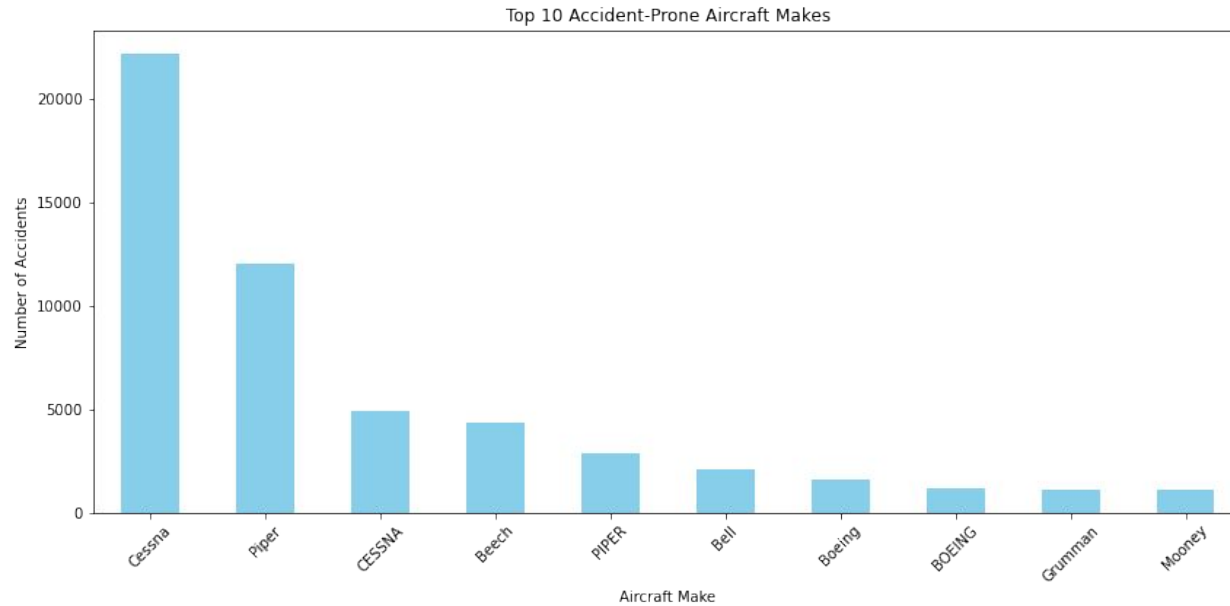
Data Source: NTSB accident records (1962–2023)

Tools: Python, pandas, matplotlib, Tableau

Data Summary

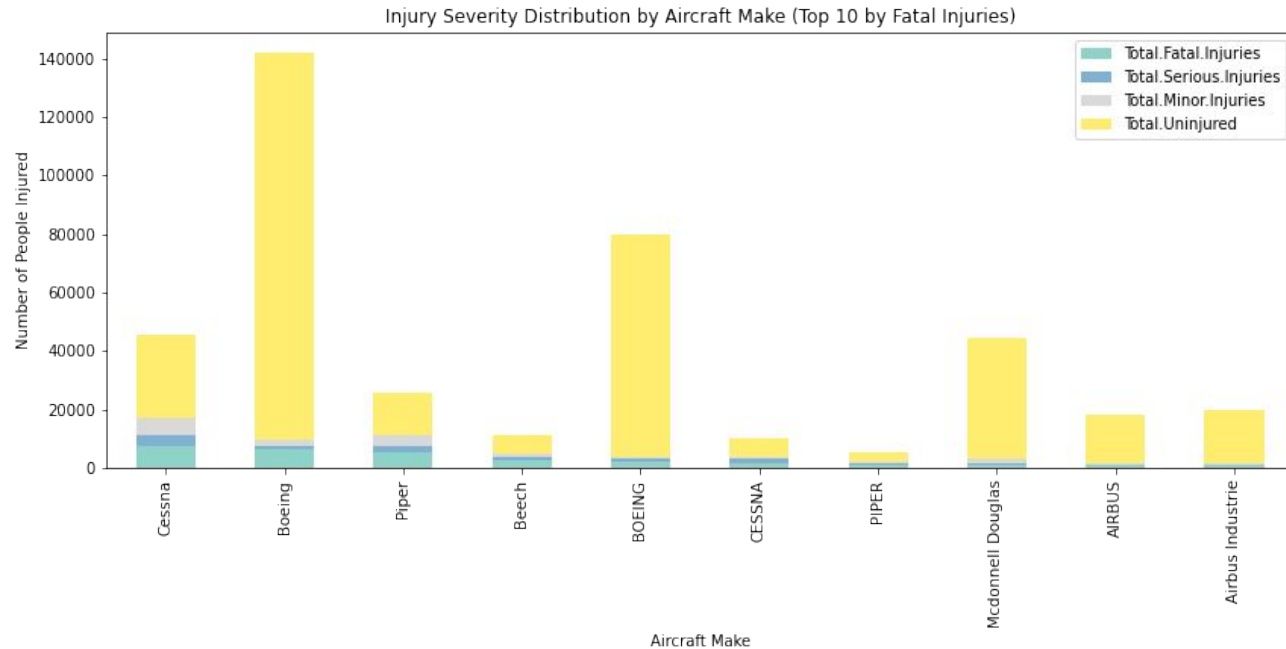
- 94,000+ records
- Key features: Make, injuries, weather, state
- Handled missing injury data with `fillna(0)`

Accident Frequency



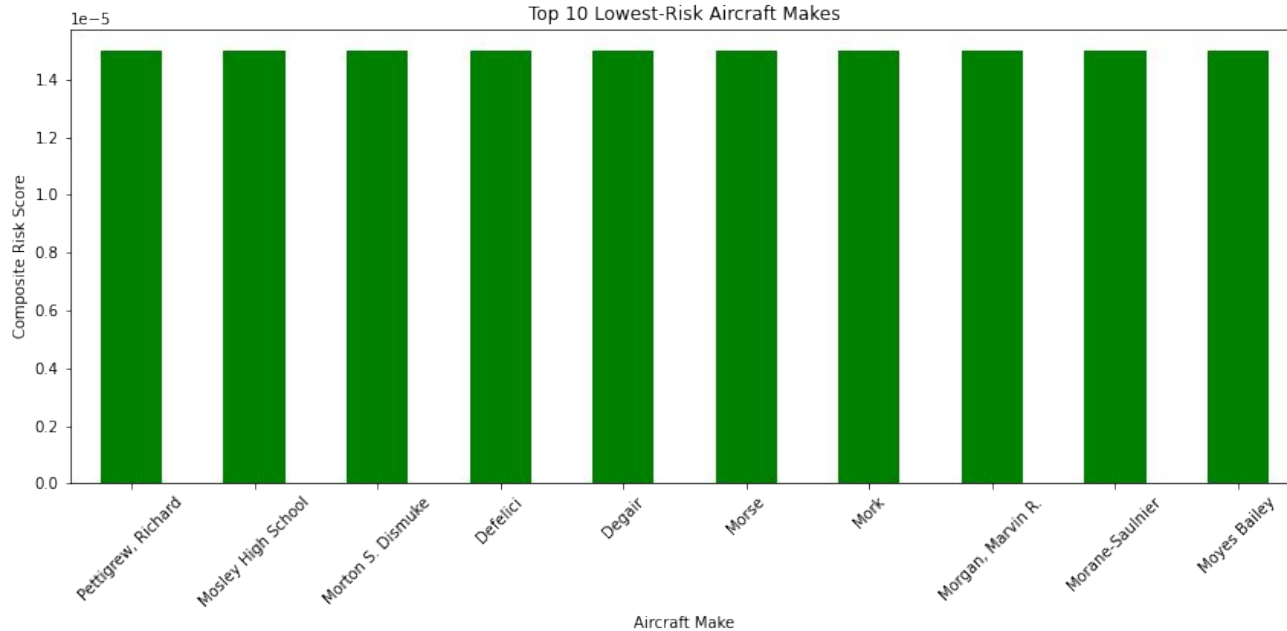
💡 **nsight:** High accident counts correlate with popular aircraft manufacturers such as Cessna and Piper.

Injury Severity



Insight: Some aircraft have disproportionately high fatalities

Composite Risk Score



Insight: Top 10 safest aircraft based on accidents + severity

Recommendations

1. **Invest in Low-Risk Aircraft Makes.**
2. **Avoid high-risk Manufacturers**
3. **Focus maintenance on single-engine aircraft**
4. **Conduct Further Safety Analysis**

Next Steps

- Aircraft model-level analysis
- Accident mapping by weather/location
- Integrate FAA maintenance history

Thank You

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Questions welcome!