Aviation Business Analysis:

Determining Which Aircraft Are The Lowest Risk For The Company To Start This New Business Endeavor

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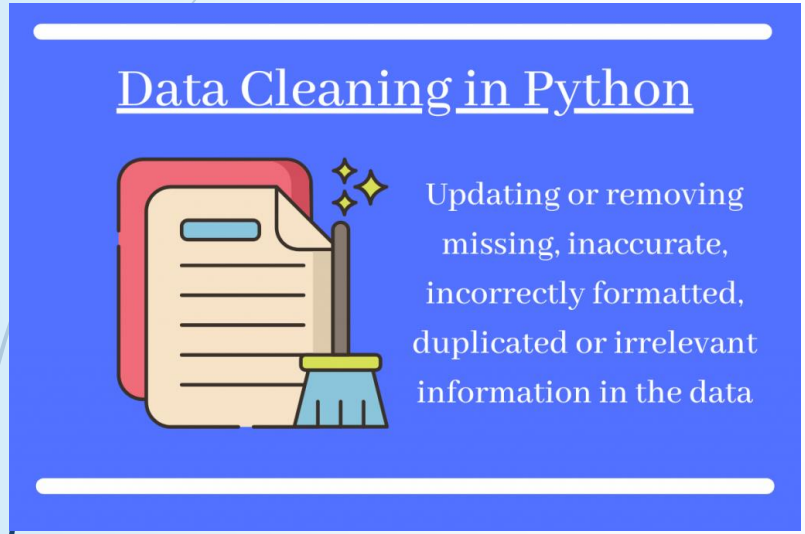
Project Outline

- Background
- Data exploring and data cleaning
- Risk assessment analysis
- Visualizations and insights
- Recommendation
- Conclusion
- References

Background

- Dataset provided by the National Transportation Safety Board (NTSB).
- contains valuable information on civil aviation accidents and selected incidents spanning over six decades.
- **Our objective:** analyze this data into actionable insights that will guide stakeholders decision-making process as we venture into the aviation industry.

Data exploring and data cleaning



- Understanding the Data: Familiarize with the dataset's structure, and variables.
- Handling Missing Values: Address any missing or incomplete data points.
- Aggregate the data in a meaningful way to derive insights at a higher level of abstraction

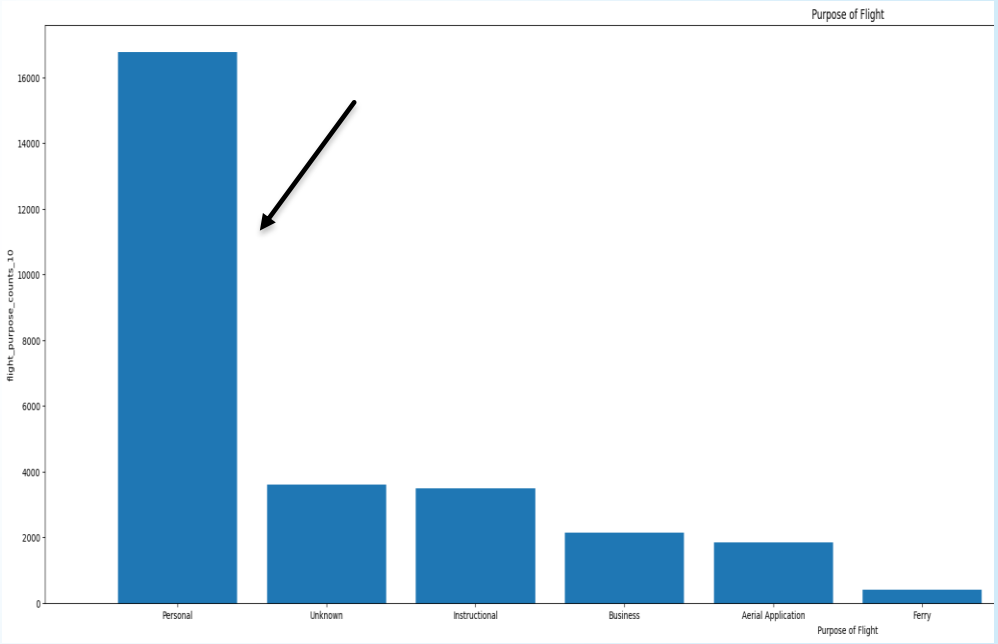
Risk assessment analysis, &visualizations insights

- Identify the best type/model of business based on the analysis of the purpose of flight
- Identifying High-Risk Factors: Explore variables such as aircraft type(make & model), injury severity and engine type
- Comparative Analysis to compare the safety records of different aircraft types to ascertain which ones have historically demonstrated lower risk profiles.

Identify the best type/model of business based on the analysis of the purpose of flight

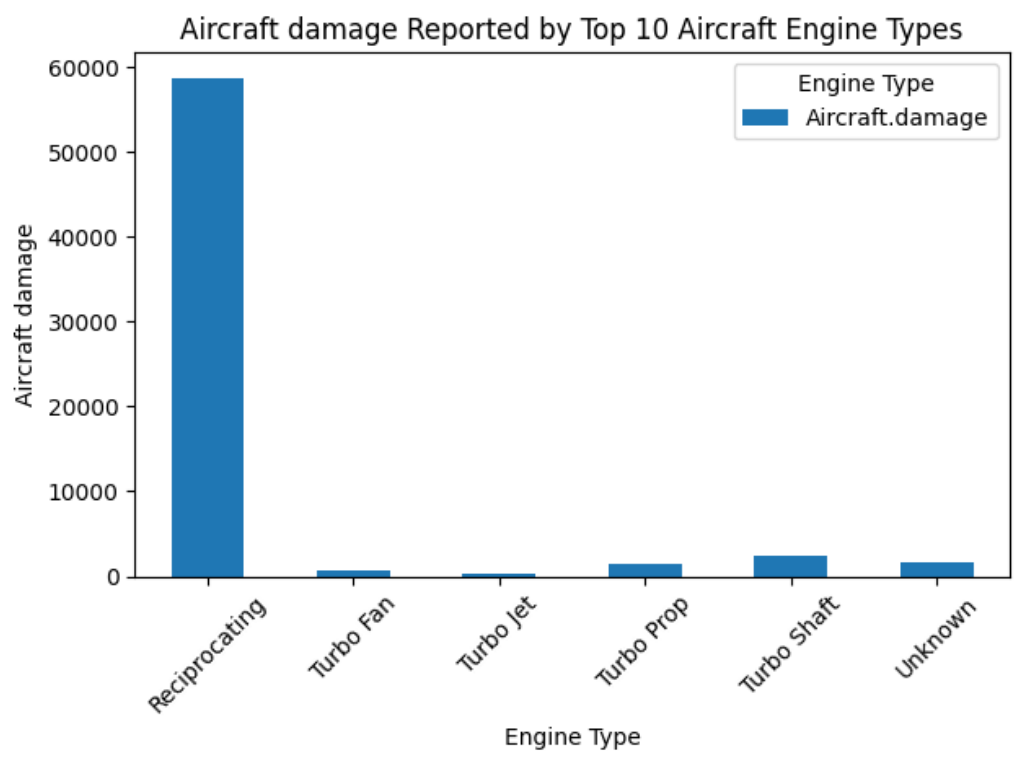
Purpose of flight

Personal	16757
Unknown	3608
Instructional	3497
Business	2150
Aerial Application	1847
Ferry	404
Positioning	372
Other Work Use	342
Executive/corporate	256
Aerial Observation	212
Public Aircraft	164
Skydiving	14

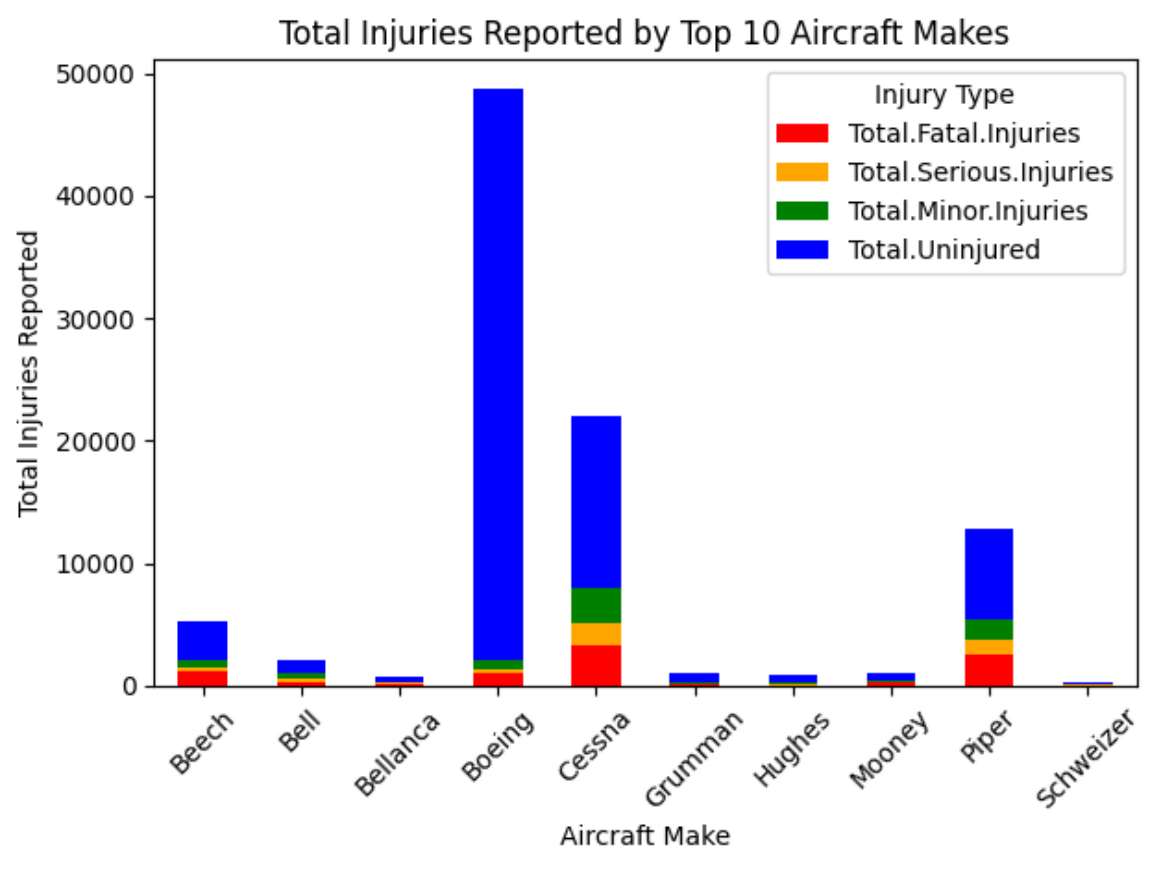


The most popular purpose of flights for personal reasons

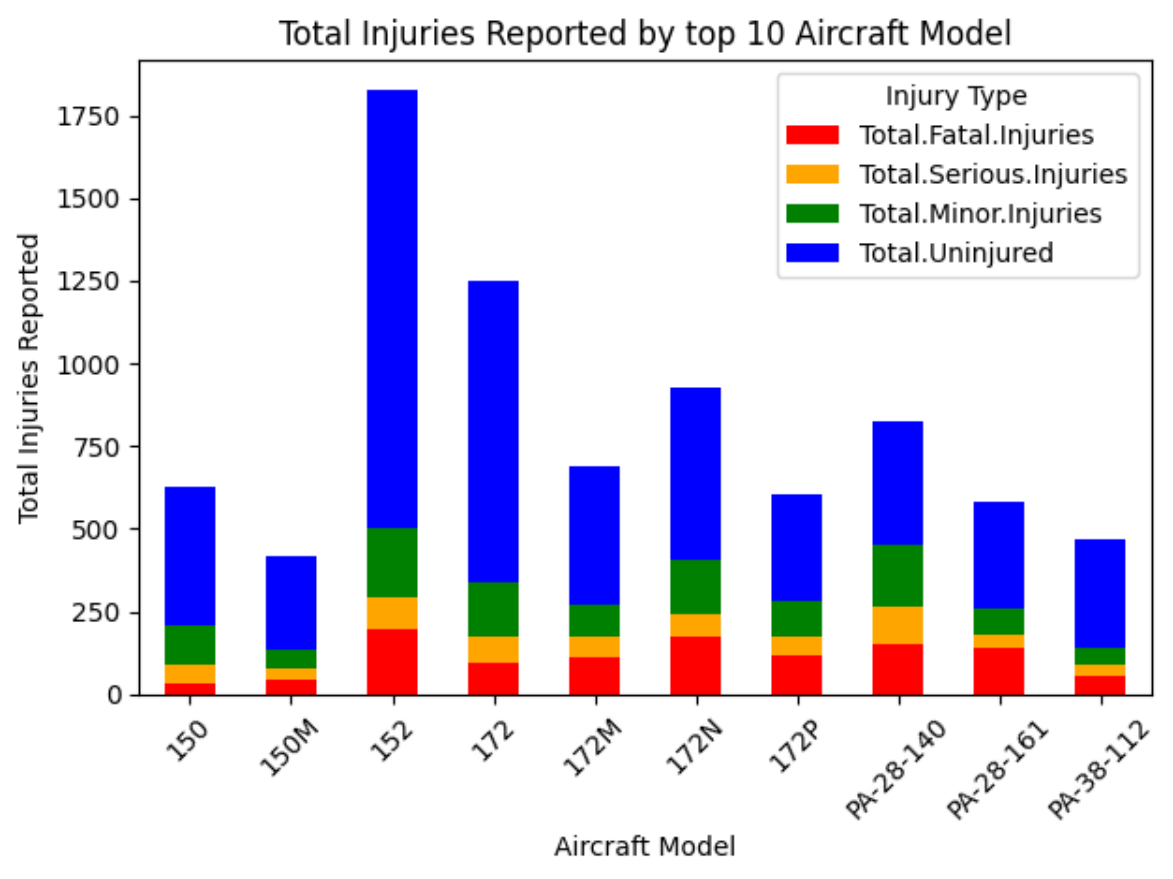
Identifying High-Risk Factors



Best engine type recommended : Turbo fan



Best Air craft make recommended : Boeing, Cessna

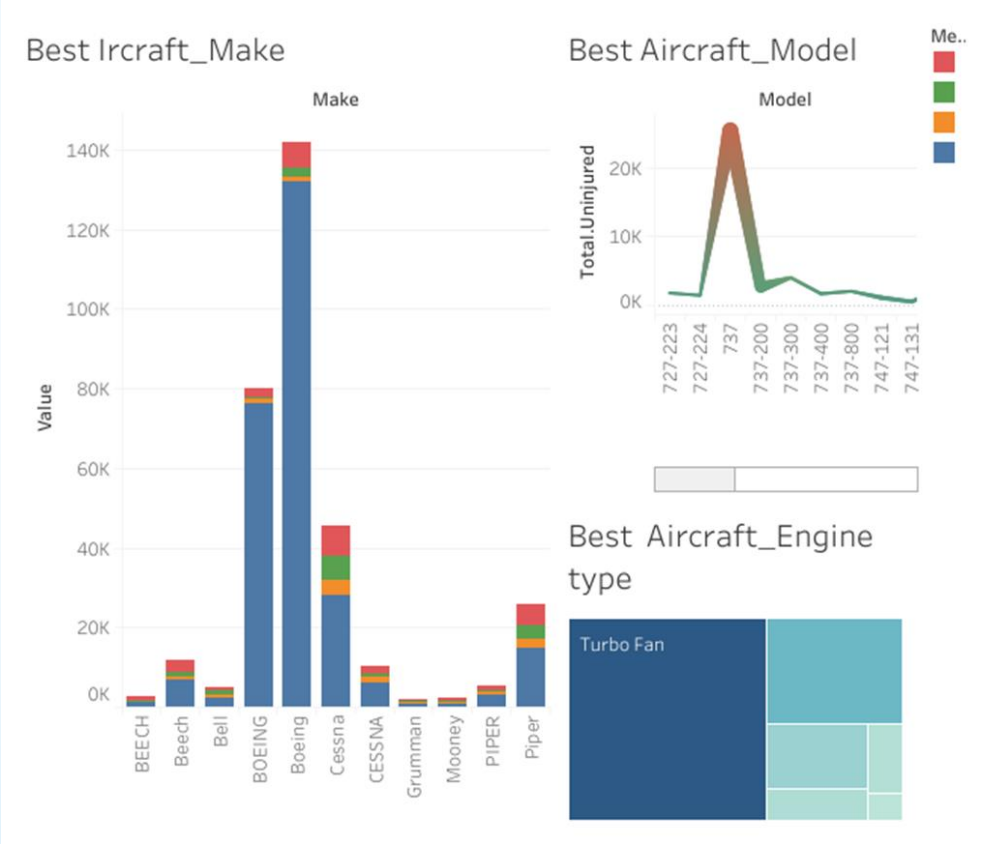


Best Air craft make recommended : DC-10-10', '727-200', 'DC-10-30

Recommendation

- Most popular purpose of flight: Personal
- Best 3 aircraft commercial make based on total uninjured: ['Boeing', 'Mcdonnell Douglas', 'Cessna']
- Best 3 commercial aircraft model based on total uninjured: ['DC-10-10', '727-200', 'DC-10-30']
- Best aircraft engine: Turbo Fan

Dashboard


Best Ircraft_Make
Make
Value
140K
120K
100K
80K
60K
40K
20K
0K
BEECH
Beech
Bell
BOEING
Boeing
Cessna
CESSNA
Grumman
Mooney
PIPER
Piper
Best Aircraft_Model
Me..
Model
Total.Uninjured
20K
10K
0K
727-223
727-224
737
737-200
737-300
737-400
737-800
747-121
747-131
Best Aircraft_Engine type
Turbo Fan

References

- https://github.com/learn-co-curriculum/dsc-phase-1-project-v3
- https://www.kaggle.com/datasets/khsamaha/aviation-accident-database-synopses