Polaris Capital Investment Analysis

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November 5, 2024

Summary

Descriptive analysis of the National Transportation Safety Board aviation accident dataset declares the safest components of an aircraft based on:

- Specific make of aircraft
- Engine type
- Number of engines in the aircraft
- Injury outcome of the accident in relation to engine information

Outline

- Business Problem
- The Data
- Results + Recommendations
- Conclusions

Business Problem

- Polaris Capital needs to diversify its investment portfolio
  - Expand into new sectors

- Wants to look into commercial aircrafts, but does not know the potential risks associated
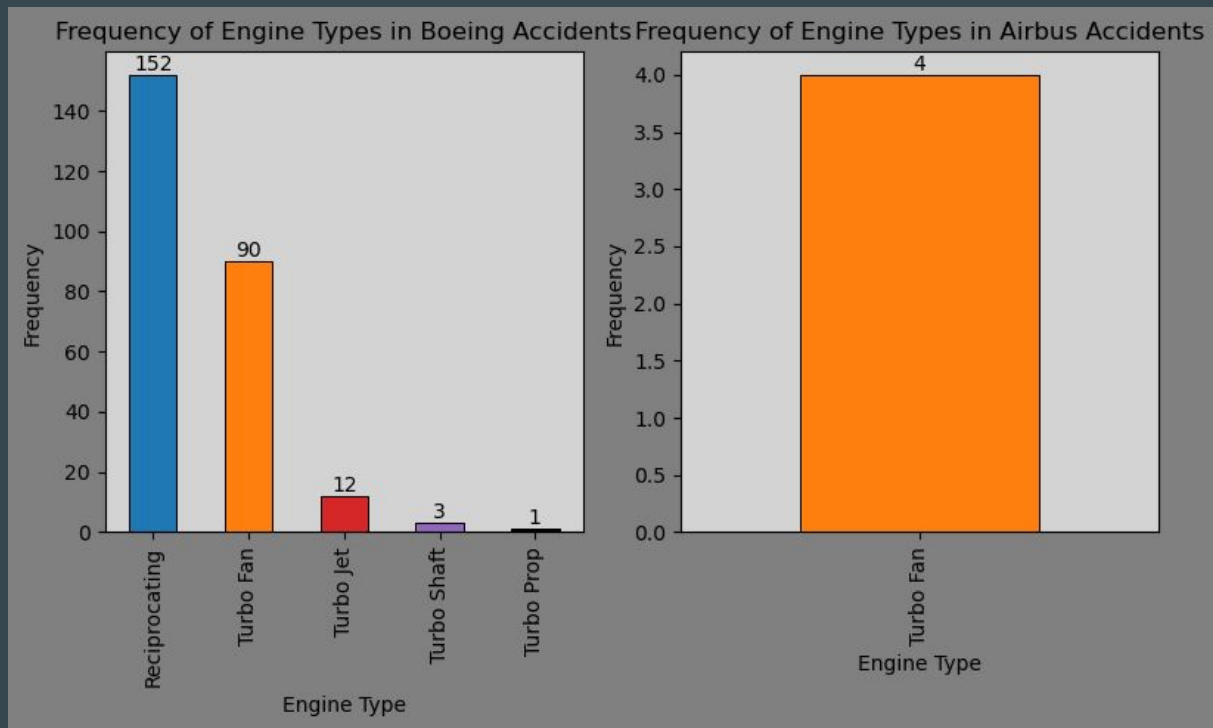
The Data

- Commercial aviation accident data ranging from 1962 to 2023
  - Contains over 90,000 records

- Includes specific information about aircrafts, airports, flight status, weather condition, and other variables related to the accident
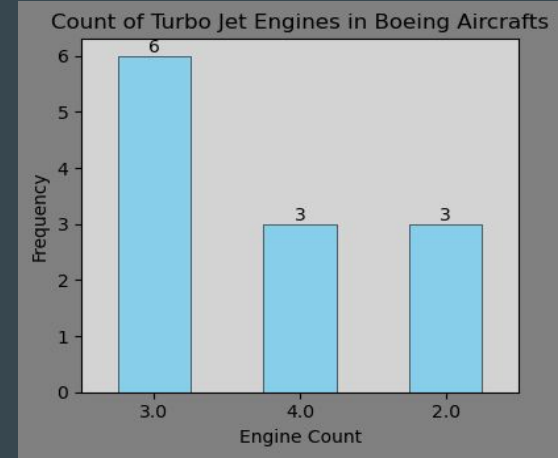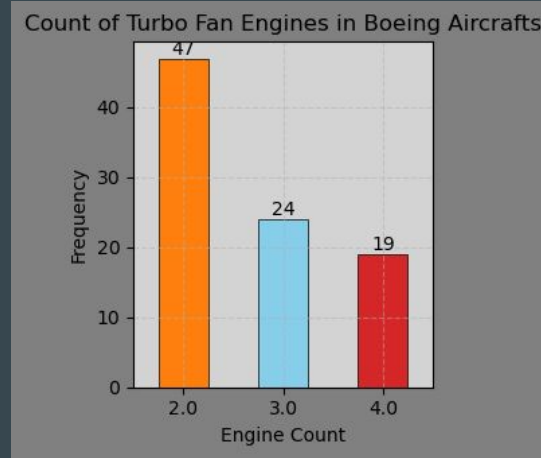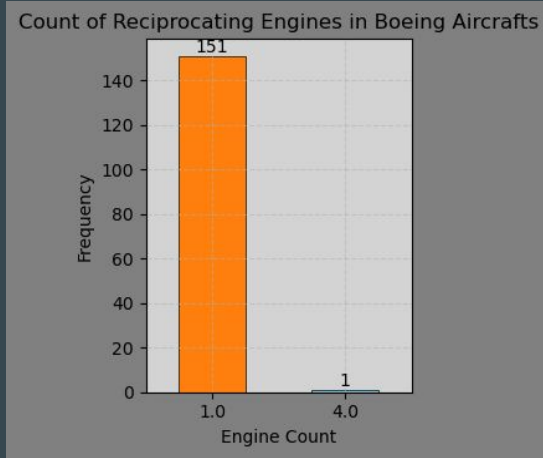
- Thoroughly filtered

Frequency of Aviation Accidents per Year
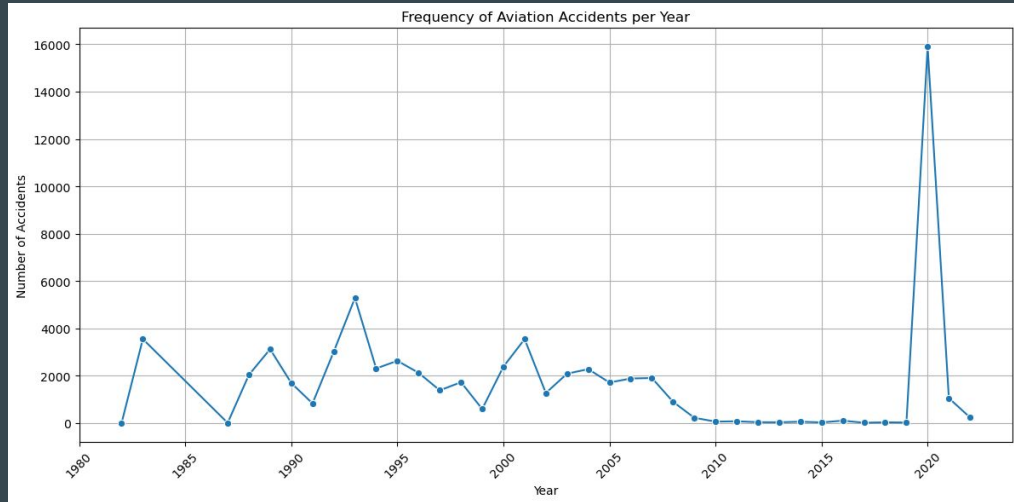
Results + Recommendations

Boeing + Airbus

- Non-fatal
- 0 total injuries

- Engine type? Count?

- Reciprocating, Turbo Fan, Turbo Jet

Results + Recommendations

- Reciprocating engines definitely unsafe in counts of 1
  - Exception with a count of 4
- Turbo Fan and Turbo Jet engines are unsafe; no exceptions

Results + Recommendations

Boeing:

- DHC-6-300
- B-17G
- MD600N
- 369E

Airbus:

- A319
- A320
- A321

Conclusions

- Airbus and Boeing aircrafts are best options for commercial use
- Turbo shaft and turbo prop engines are consistently reliable
- Important to look at injury outcome data for each accident

Next steps:

- Analysis of other potential variables that were not included in the dataset
- "Probable cause" accident reports
- Outliers. Engine types electric, LR, hybrid rocket, and geared turbofan

Thank you!

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