AVIATION ACCIDENTS IN UNITED STATES

BACK-GROUND

One of the means of the transport is by air. In United States , it experience number of accidents in aviation sector every year. Safety of aircrafts, pilot and other users is paramount. We will figure out the causes and factors that contribute these accidents.

PROBLEM STATEMENT

Considering the number of accidents in aviation sector notwithstanding the modern aircraft in United States is an alarming. Hence is necessary to find out the causes and make recommendation for future safety improvement.

Project Goals

1. To analyze the trend of the accidents for the last years
2. To find out the states which the accidents occurs mostly
3. To examine the kind of aircrafts which are associated with accident mostly
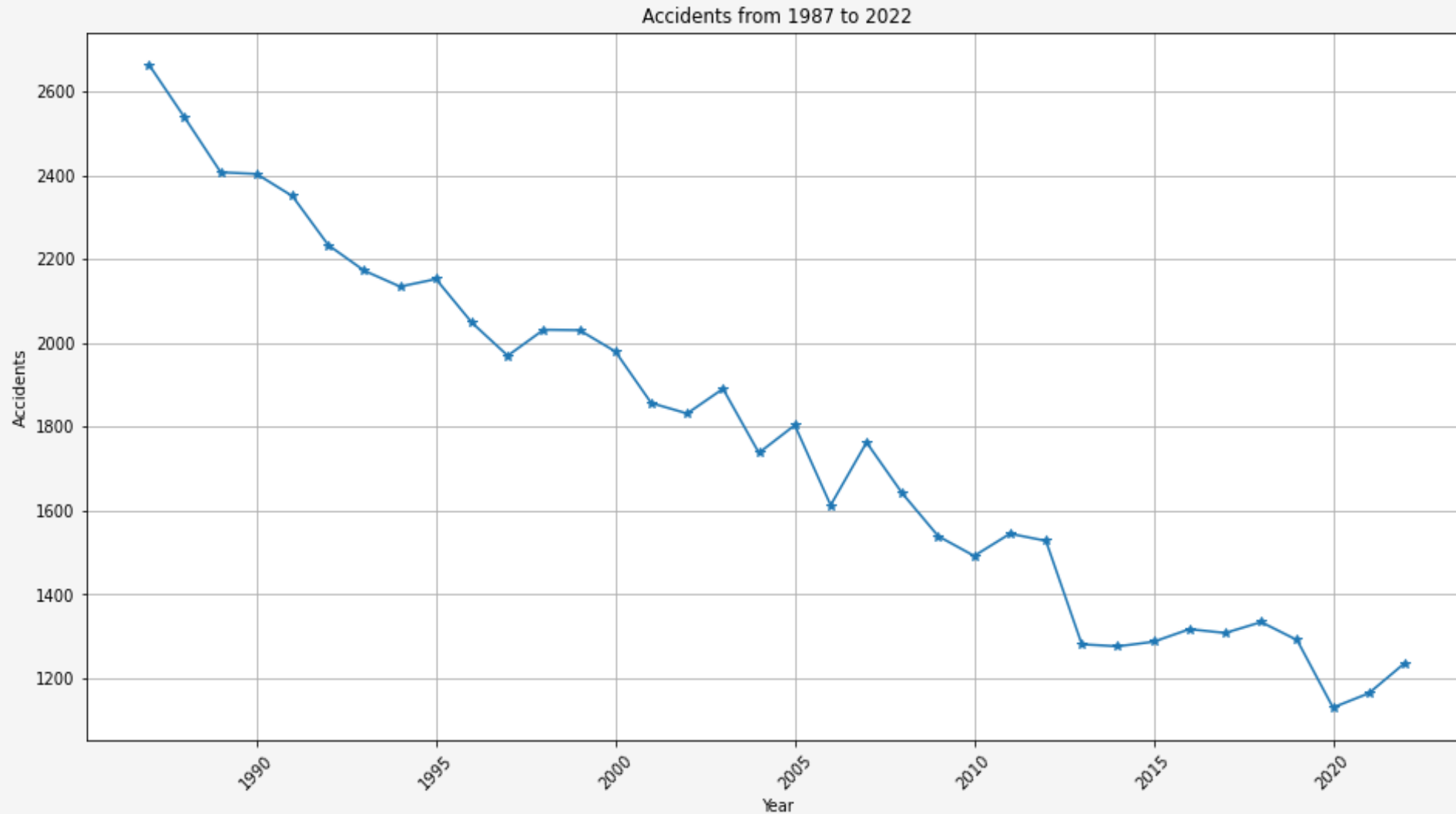4. To provide recommendation based on the findings

DATA

The data set used for this analysis was downloaded from Kaggle website. The NTSB database recorded the accidents and incidents from 1942 to 2023.
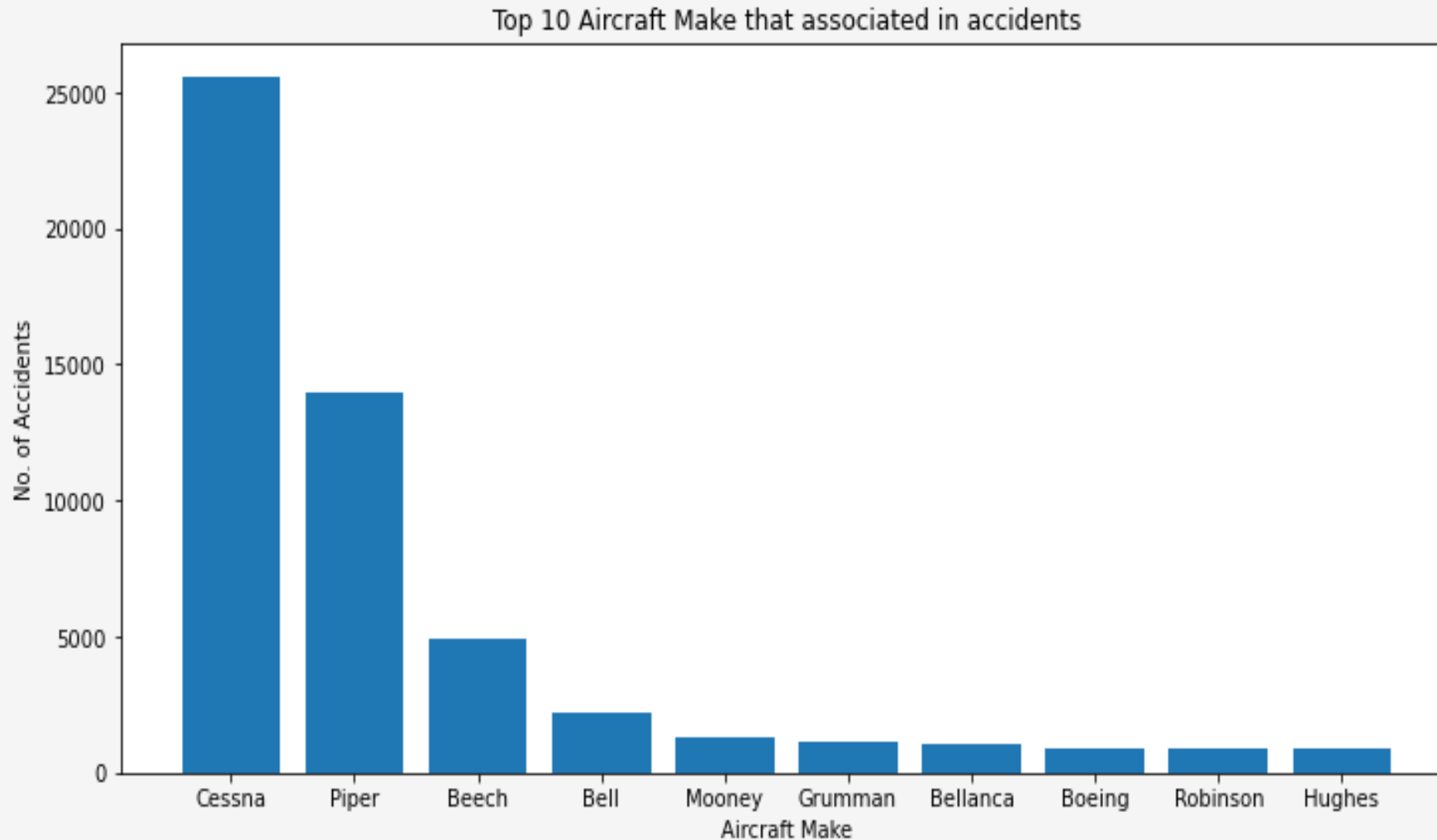
METHODS

❖ Python Language
❖ Pandas Library
❖ Numpy Library
❖ Matplotlib library
❖ Seaborn Library
❖ Tableau
❖ IDE USED
➢ VISUAL STUDIO
➢ Jupyter Notebook
➢ Google Colab

ACCIDENTS AND TRENDS
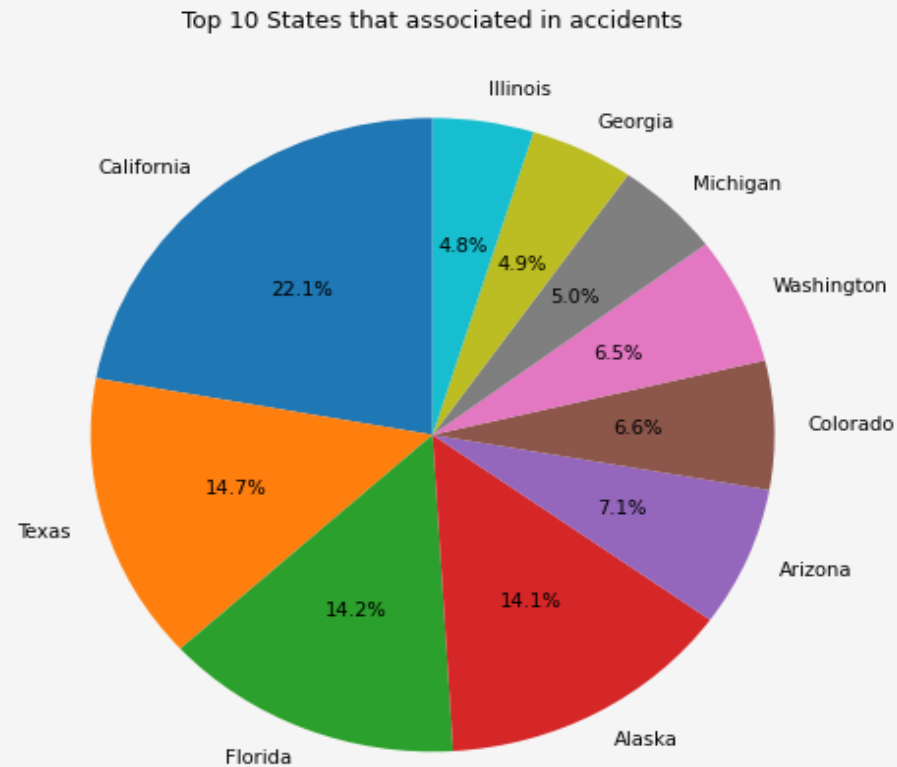

Accidents from 1987 to 2022

On the line plot, it shows decreasing of accidents from 1987 to 2022. it indicate an improvement in aviation sector.

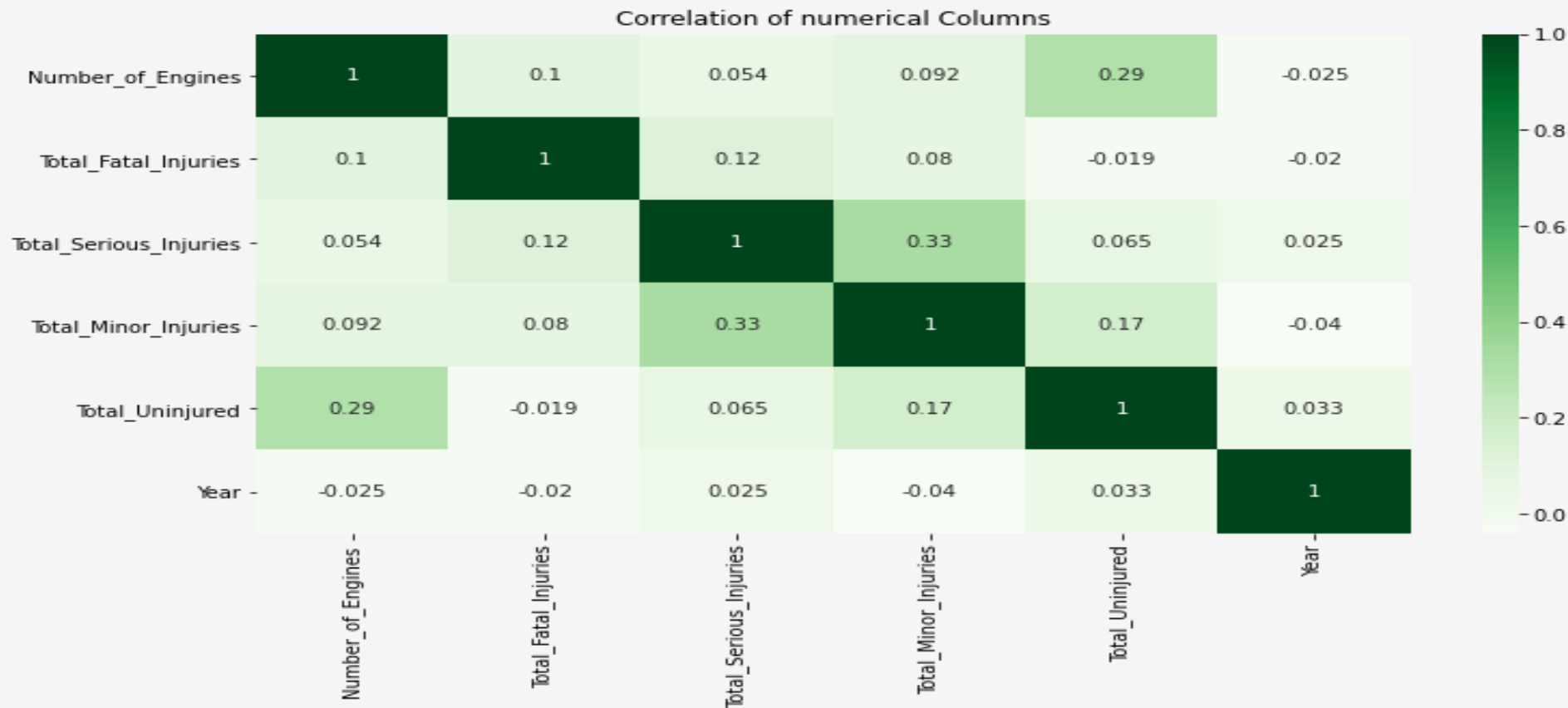# TOP 10 AIRCRAFTS MAKE THAT ARE ASSOCIATED WITH ACCIDENTS

Top 10 Aircraft Make that associated in accidents

On the bar graph, Cessna Aircraft are mostly involved an accident. Piper and Beech aircrafts also have significant scenarios of accidents.

TOP 10 STATES THAT ARE ASSOCIATED WITH ACCIDENTS

Top 10 States that associated in accidents

The pie chart shows California, Texas ,Florida and Alaska have the highest number of accidents.

Correlation among numerical values

Correlation of numerical Columns

The result is largely negative thus weak correction among them

RESULTS

❖ **California, Texas ,Florida and Alaska have the highest number of accidents.**

❖ **Cessna Aircraft are mostly involved an accident. Piper and Beech aircrafts also have significant scenarios of accidents.**

❖ **The accidents has declined from 1987 to 2022**

Next step

► **Analyze the causes of accidents in top 10 states**

RECOMMENDATIONS AND CONCLUSIONS

► 1. Maintenance .

► For all aircrafts should be maintained regularly.Bofore the departure must be checked and approved by aviation department for the safety of the aircrafts, pilot and other users.

► 2. Suspension of high risk aircrafts .

► The Cessna , Piper and Beech aircrafts must be suspended with the immediate effect. Generally those aircrafts have mechanical problem .Also introduce a periodic inspection of the aircrafts. The regulatory body should approved if their safe for transport. Thus gaining confidence from the users.

►

RECOMMENDATIONS AND CONCLUSIONS CONT……

- ▶ 3. Improving safety of high risk states .
- ▶ California ,Texas , Florida and Alaska should be investigated the high cause of accidents. Some factors could be contributed like Weather condition , human error and possibly mechanical problem regarding the aircrafts. This will enhance aviation safety .
- ▶ 4. Technologies .
- ▶ Airlines company should adopt the modern technology aircraft which enhance safety and reduce the accidents caused by older models. This will signal out any slight mechanical failure hence increased efficiency.
- ▶ 5. Training.
- ▶ Human error contribute majorly to the occurance of accidents. The aviation should provide safety training program for pilots