

COMP 4304 Project Proposal

MD SAKIF AL MOHAIMEN - 201861408
SOHAYIB SAZID FAHIM - 202148771

Broad Goal:

Where should efforts be focused to improve the safety of Canadian air space?

Sub Goals:

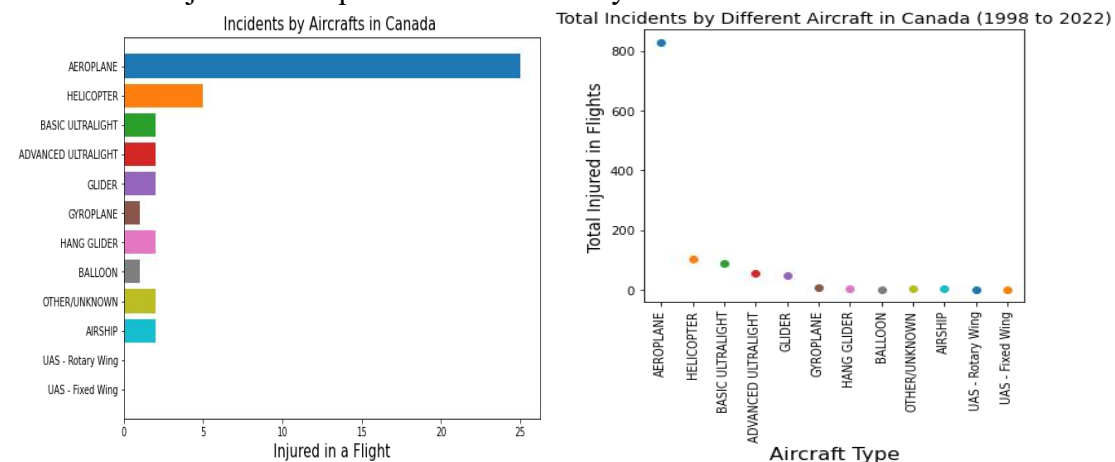
- To identify the type of aircraft caused the serious incidents and the locations where these were reported.
- To identify top 10 most common reasons for the incidents over the last 25 years, including aircraft manufacturer and model.

Aviation safety of Canadian air space is a crucial concern. In order to improve safety procedures and prevent further accidents, it may be helpful to understand the causes of and patterns in aviation occurrences. In this research, we evaluate the data set to assess Canadian aviation-related occurrences.

Through investigation, we created two initial visualizations:

1. Bar and Scatter plots showing the number of incidents by aircraft type:

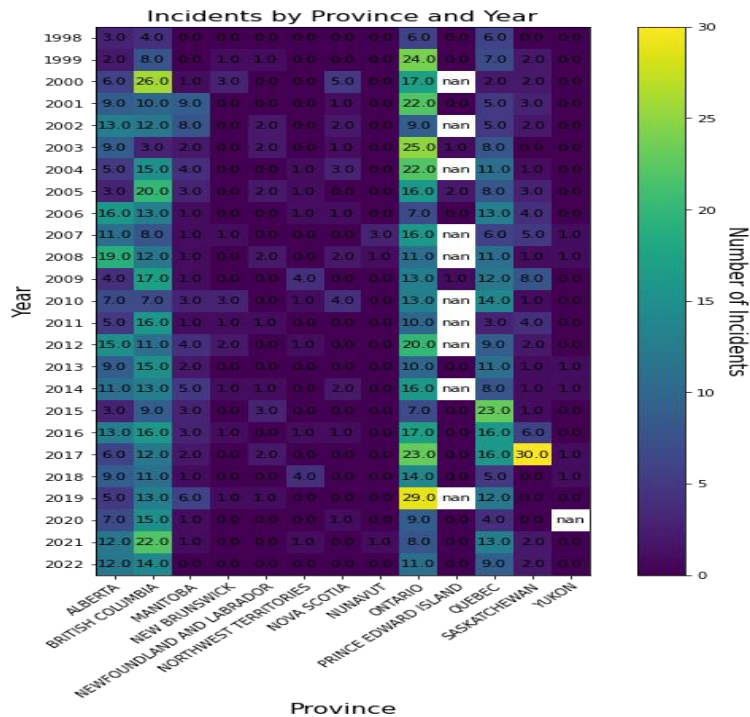
This visualizations are measured under the condition that the incident is severe and injuries are reported from 0 to many.



The largest number of people injured during a flight in various aircraft is displayed on the left. And to the right, it displays the number of accidents involving various aircraft over the last 25 years. In both cases, "Aeroplane" recorded the highest number of casualties. This visualization is connected to the first sub-goal of exploring incidents involving aircraft in detail.

2. Heat map showing the number of incidents by province:

In this visualization, the heat map shows the provinces with the most downed aircraft reported over the last 25 years. Alberta, British Columbia, Ontario and Quebec reported frequent aircraft related incidents and injuries. But Saskatchewan had the highest number of injuries recorded in 2017. Some reasons behind these incidents are: Pilot error, Mechanical error, Inclement weather, Air Traffic control error. This visualization is also connected to the first sub-goal of locations where the incidents were reported.



Our next steps for the project are as follows:

1. Deeper exploration of the data:

We plan to investigate the causes of incidents that are commonly related to these incidents. This is connected to the second sub-goal.

2. Refinement of current visualizations:

We plan to fine-tune the current visualizations to make them more appealing and informative. For example, we intend to put the exact count of reported injuries in bar and scatter plot.

3. Additional visualization:

We plan to create an interactive visualization where we can show common causes, aircraft make and model of the aircraft that were reported to commonly relate to the incidents. Here we intend to use buttons to go from one visualization to another.

This project will provide valuable insight into Canadian aviation accidents and help improve aviation safety practices. By identifying the aircraft involved in the most incidents and accidents and the provinces of Canada that have recorded to highest number of aviation accidents, we can better understand the causes and patterns of aviation accidents and implement them to prevent future accidents.