

A cardboard airplane model, likely a paper airplane, is shown in a state of disrepair. The wings are broken, the fuselage is split, and the tail is detached. The model is white with red markings, including the word "Airplane" written in cursive on one of the wing sections. It is set against a solid blue background.

Airplane Crashes Analysis with PowerBI

Internship Project by **HARSH GARG** with **Mentorness**
Batch –**MIP-DA-06**

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About the Project

A broken wooden airplane model is shown against a blue background with a faint city skyline. The model is disassembled, with its wings, tail, and fuselage separated and floating in the air. The airplane is white with red stripes and markings. The background is a solid blue color with a faint, stylized city skyline visible in the lower half.

- This project analyzes airplane crashes (1980-2023) using Power BI for interactive visualizations.
- Dataset includes crash details, fatalities.
- Objectives: temporal/geospatial analysis, operator/aircraft performance, fatality trends, route analysis.
- Deliverables: Power BI dashboards, reports. Aims to enhance aviation safety.

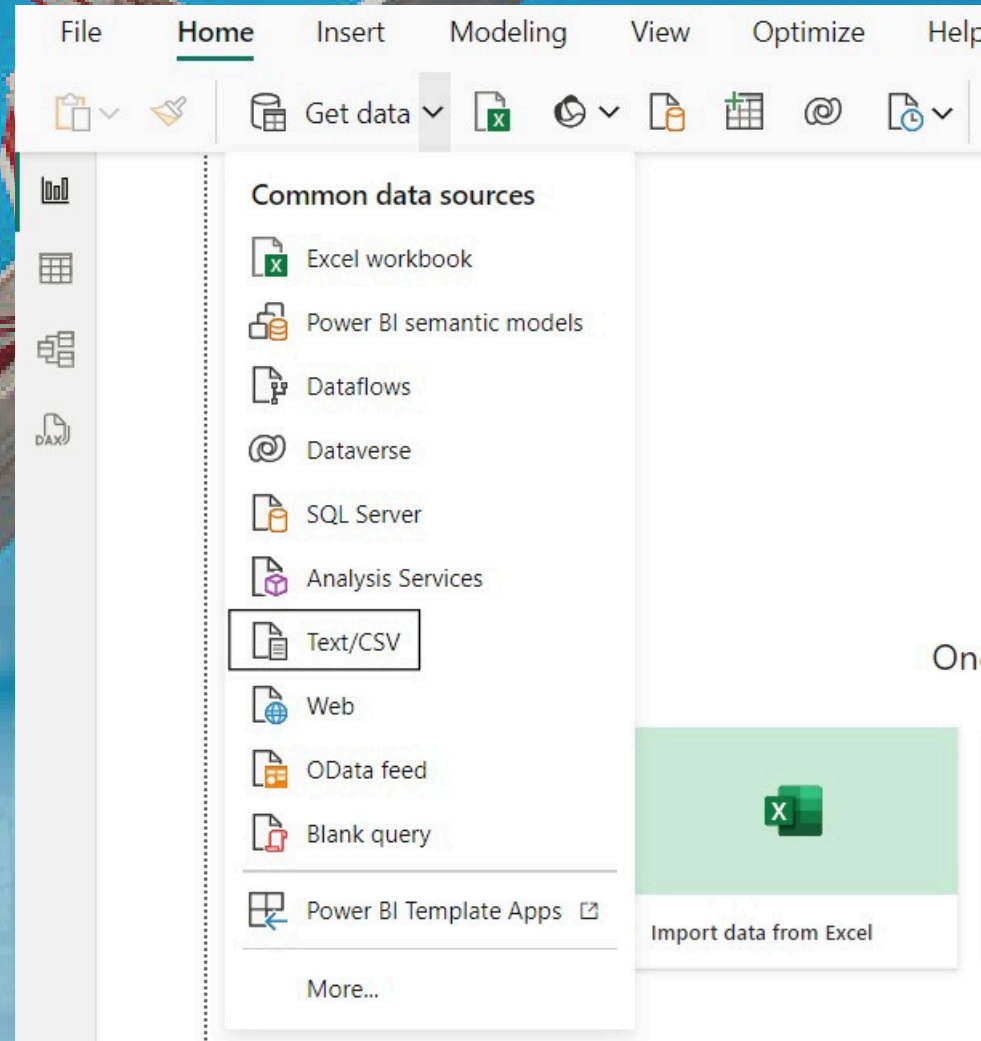
Dataset Description



- Date: Date of the airplane crash.
- Time: Time of the airplane crash.
- Location: Location where the airplane crash occurred.
- Operator: Operator or airline involved in the incident.
- Flight #: Flight number associated with the incident.
- Route: Planned route of the flight.
- AC Type: Aircraft type involved in the crash.
- Registration: Registration details of the aircraft.
- cn/ln: Construction or serial number of the aircraft.
- Aboard: Total number of individuals aboard the aircraft.
- Aboard Passengers: Number of passengers aboard the aircraft.
- Aboard Crew: Number of crew members aboard the aircraft.
- Fatalities: Total fatalities in the incident.
- Fatalities Passengers: Number of passenger fatalities.
- Fatalities Crew: Number of crew member fatalities.
- Ground: Casualties on the ground, if any.
- Summary: Summary or description of the incident.

Import the Data

- Import Data as CSV File:



Clean the Data

- Transform Data:

Airplane Crashes Analysis.csv

File Origin

1252: Western European (Windows)

Delimiter

Comma

Data Type Detection

Based on first 200 rows

Date	Time	Location	Operator	Flight #	Route	AC Type	Registration
9/17/1908	17:18	Fort Myer, Virginia	Military - U.S. Army		Demonstration	Wright Flyer III	
9/7/1909		Juvisy-sur-Orge, France			Air show	Wright Byplane	SC1
7/12/1912	6:30	Atlantic City, New Jersey	Military - U.S. Navy		Test flight	Dirigible	
8/6/1913		Victoria, British Columbia, Canada	Private			Curtiss seaplane	
9/9/1913	18:30	Over the North Sea	Military - German Navy			Zeppelin L-1 (airship)	
10/17/1913	10:30	Near Johannisthal, Germany	Military - German Navy			Zeppelin L-2 (airship)	
3/5/1915	1:00	Tienen, Belgium	Military - German Navy			Zeppelin L-8 (airship)	
9/3/1915	15:20	Off Cuxhaven, Germany	Military - German Navy			Zeppelin L-10 (airship)	
7/28/1916		Near Jambol, Bulgaria	Military - German Army			Schutte-Lanz S-L-10 (airship)	
9/24/1916	1:00	Billericay, England	Military - German Navy			Zeppelin L-32 (airship)	
10/1/1916	23:45	Potters Bar, England	Military - German Navy			Zeppelin L-31 (airship)	
11/21/1916		Mainz, Germany	Military - German Army			Super Zeppelin (airship)	
11/28/1916	23:45	Off West Hartlepool, England	Military - German Navy			Zeppelin L-34 (airship)	
3/4/1917		Near Gent, Belgium	Military - German Army			Airship	
3/30/1917		Off Northern Germany	Military - German Navy			Schutte-Lanz S-L-9 (airship)	
5/14/1917	5:15	Near Texel Island, North Sea	Military - German Navy			Zeppelin L-22 (airship)	
6/14/1917	8:45	Off Vlieland Island, North Sea	Military - German Navy			Zeppelin L-43 (airship)	
6/17/1917		Near Yarmouth, England				Zeppelin LZ-95 (air ship)	L-48
8/21/1917	7:00	Off western Denmark	Military - German Navy			Zeppelin L-23 (airship)	
10/20/1917	7:45	Near Luneville, France	Military - German Navy			Zeppelin L-44 (airship)	

Extract Table Using Examples

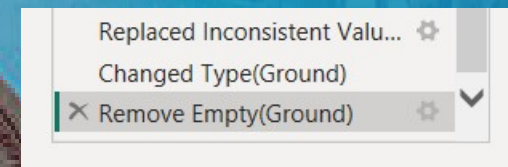
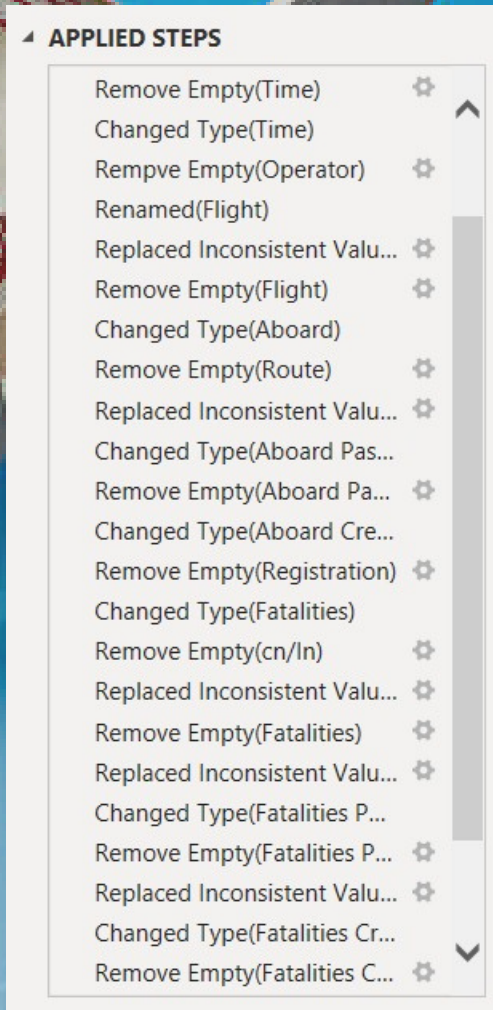
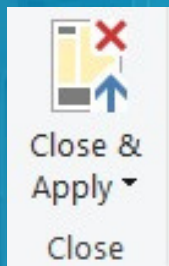
Load

Transform Data

Cancel

Clean the Data

- Remove Empty Value
- Change Data Type.
- Replace Inconsistent Value.
- Rename Some Column.
- Apply Change to visualize



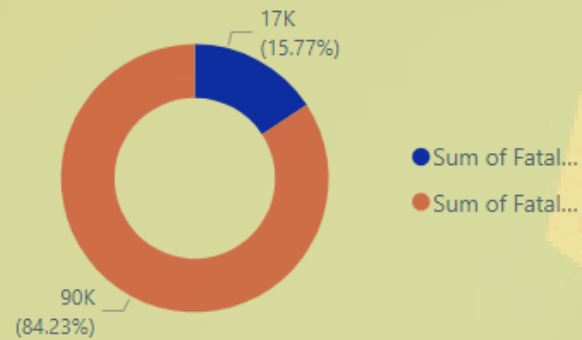
Visualize the Data

Objectives:

- 1.Temporal Analysis
- 2.Geospatial Analysis
- 3.Operator Performance
- 4.Aircraft Analysis
- 5.Fatality Trends
- 6.Route Analysis

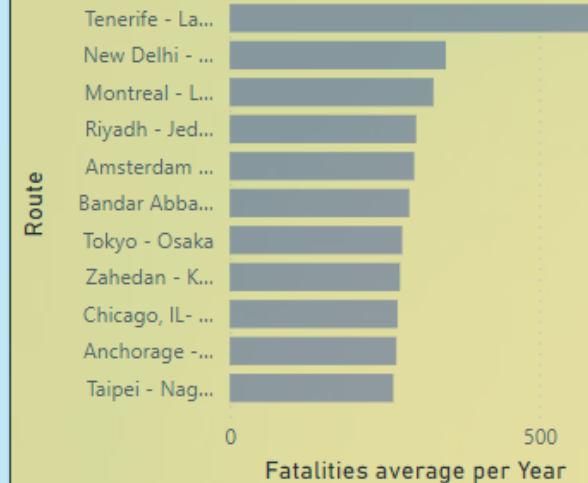


Sum of Fatalities Crew and Sum of Fatalities Passangers



Fatalities average per Year by Route

Count of Route 1 758



Temporal Analysis

155K

Sum of Aboard

111K

Sum of Fatalities

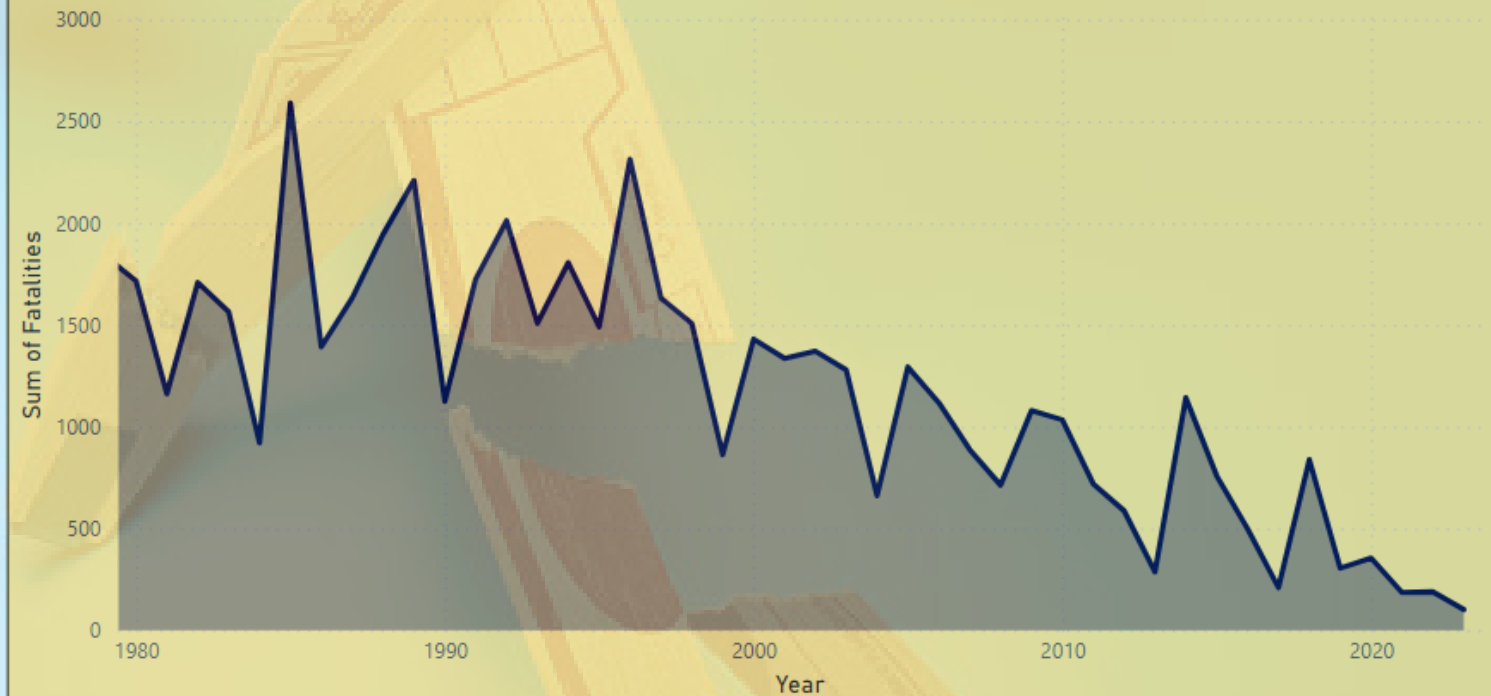
90K

Sum of Fatalities Passangers

17K

Sum of Fatalities Crew

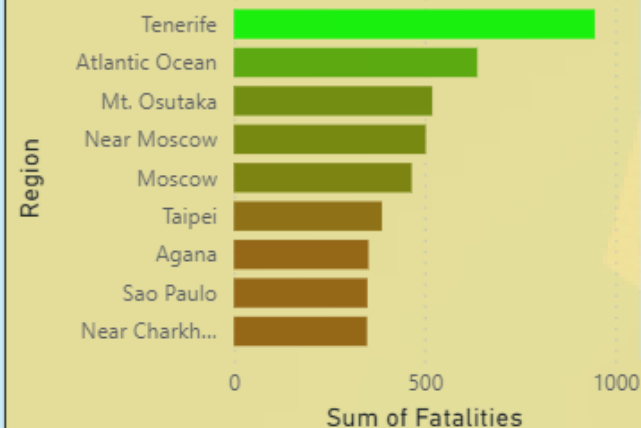
Sum of Fatalities by Year



Geospatial Analysis

Sum of Fatalities by Region

Sum of Fatalities 0 946



4778

Total Countries

4955

No. of Operators

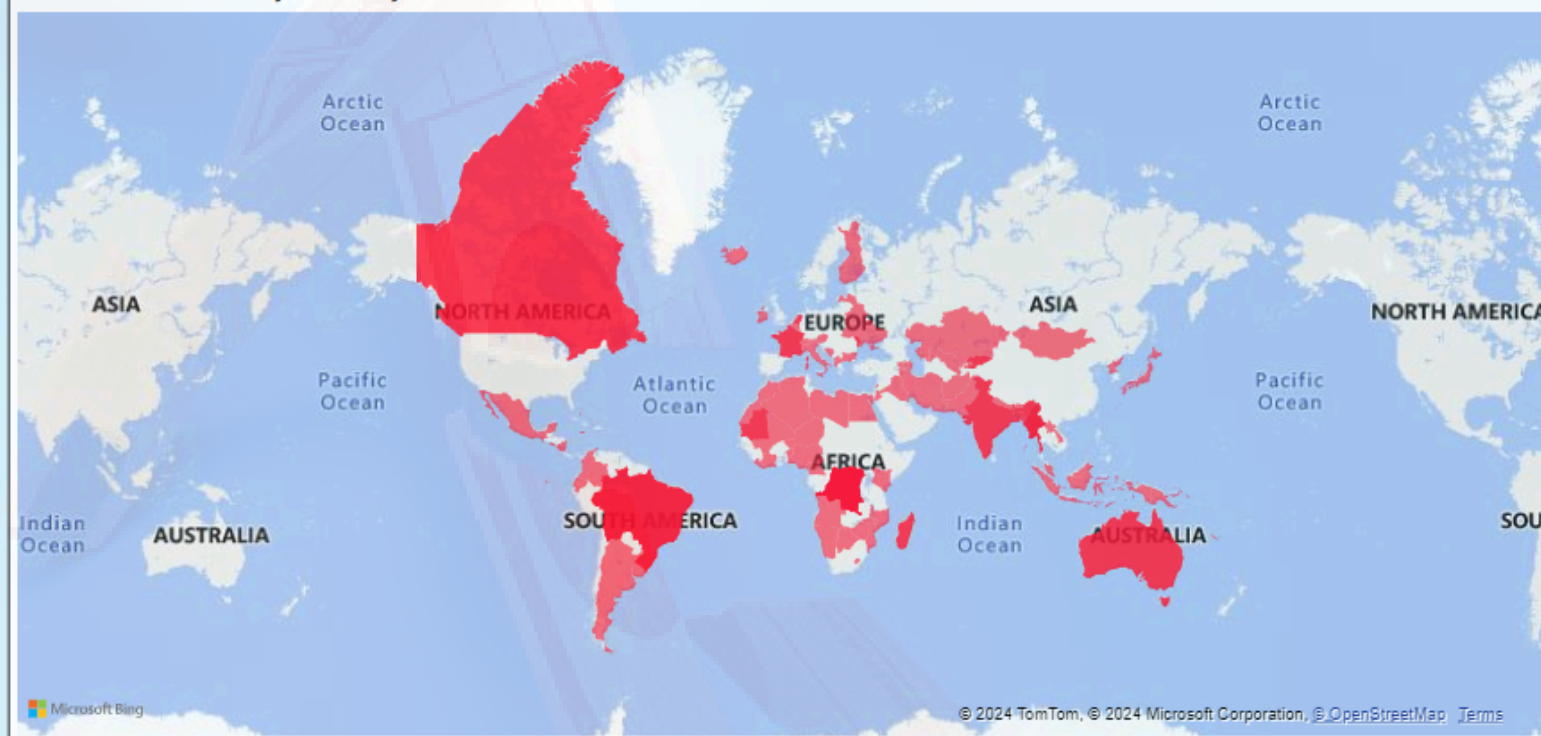
4955

No. of Aricrafts

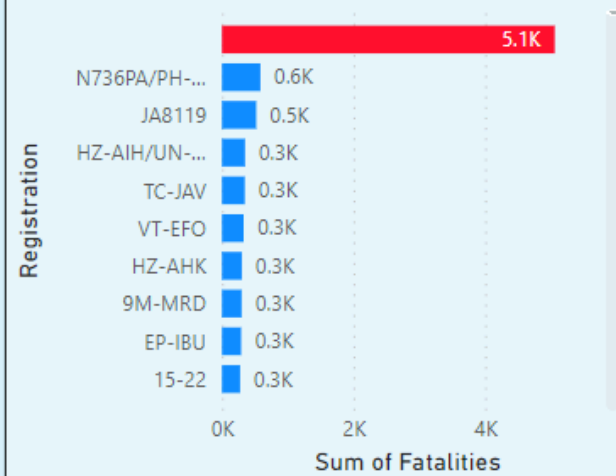
4955

No.of Registrations

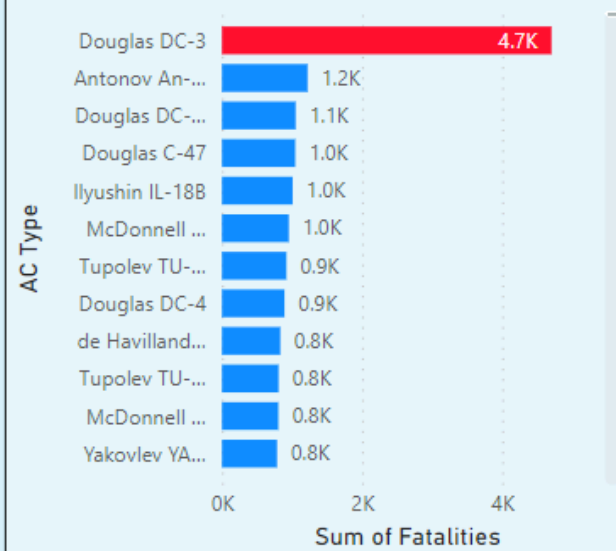
Sum of Fatalities by Country



Fatalities by Registration



Fatalities by Aircraft Type



Fatality Trends

Passengers Fatalities Rate



Crew Fatalities Rate



Analysis Conclusions



- Chicago O'Hare, Illinois, especially along route (Chicago, IL- Los Angeles, CA), has the highest airplane fatality rate in the world.
- The year 2001 was the highest airplane fatalities rate in the world.
- There is a relationship between the Registration details of the aircraft (N110AA), AC Type: McDonnell Douglas DC-10-10 and the number of fatalities.
- There is a relationship between operator: American Airlines with number(46510/22) and the number of fatalities.
serial

What I Learn

- How and when to use different type of visualizations.
- How uncleaning data can make your visualization unreadable.



A paper airplane constructed from Indian 500 rupee banknotes is shown in flight against a blue sky with a faint city skyline in the background. The wings and tail are made of folded banknotes, while the fuselage is a single banknote. The text "Thank You" is centered over the airplane.

Thank You

BY :- HARSH GARG