**Aircraft Damage Prediction Analysis**

# ABOUT PROJECT

* The aviation accident database synopses project, known as Aviation Data, is a comprehensive collection of data related to aviation accidents worldwide, providing detailed information and analysis to enhance safety and understanding within the aviation industry.
* The NTSB [National Transportation Safety Board] aviation accident database contains information from 1962 and later about civil aviation accidents and selected incidents within the United States and its territories.

▪ The NTSB is an independent federal agency in the United States responsible for investigating transportation accidents, including those involving aviation.

# OBJECTIVE

- The objective of the project on Aviation Accident Damage from the National Transportation Safety Board (NTSB) i s to thoroughly investigate and analyze aviation accidents in order to understand the causes and consequences of these incidents.

* Determine if there are any specific plane models or engine types that exhibit a higher le vel of risk or danger in terms of flight safety.
* Investigate the weather conditions that have contributed to aviation accidents, aiming to understand the specific factors that lead to these incidents.
* Analyze the correlation between the number of engines on an aircraft and the likelihood of survivability, with the goal of determining if a higher number of engines leads to incre ased safety.
* Assess which phase of a flight poses the highest level of risk or danger, considering fac tors such as takeoff, climb, cruise, or landing.

# Data Description

1. Event.Id: Unique identifier for each aviation event.
2. Investigation.Type: Type of investigation conducted for the event (e.g., Accident, Incident).
3. Accident.Number: Unique identifier assigned to each accident.
4. Event.Date: Date of the aviation event.
5. Location: Location where the event occurred.
6. Country: Country where the event occurred.
7. Latitude: Latitude coordinate of the event location.
8. Longitude: Longitude coordinate of the event location.
9. Airport.Code: Code assigned to the airport involved, if applicable.
10. Airport.Name: Name of the airport involved, if applicable.
11. Injury.Severity: Severity of injuries resulting from the event.
12. Aircraft.damage: Degree of damage to the aircraft (e.g., Destroyed, Substantial, Minor). 13. Aircraft.Category: Category of the aircraft involved (e.g., Airplane, Helicopter, Rocket, etc..).
13. Registration.Number: Unique identifier for the aircraft involved.
14. Make: Manufacturer of the aircraft.
15. Model: Model of the aircraft.
16. Amateur.Built: Indicates if the aircraft was amateur-built.
17. Number.of.Engines: Number of engines on the aircraft.
18. Engine.Type: Type of engine(s) on the aircraft.
19. FAR.Description: Description based on Federal Aviation Regulations.
20. Schedule: Indicates if the flight was scheduled.
21. Purpose.of.flight: Purpose of the flight (e.g., Personal, Business).
22. Air.carrier: Name of the air carrier involved, if applicable.
23. Total.Fatal.Injuries: Total number of fatal injuries.
24. Total.Serious.Injuries: Total number of serious injuries.
25. Total.Minor.Injuries: Total number of minor injuries.
26. Total.Uninjured: Total number of individuals uninjured.
27. Weather.Condition: Weather conditions at the time of the event.
28. Broad.phase.of.flight: Broad phase of flight during which the event occurred.
29. Report.Status: Status of the investigation report.
30. Publication.Date: Date of publication of the investigation report.