BEGINNING

AVIATION SAFETY RISK ASSESSMENT

Analysis of Aviation Incident Data

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OVERVIEW

Purpose of the Analysis: To analyze aviation incident data to identify trends and provide actionable recommendations for enhancing safety.

Scope: Focus on incidents recorded in the dataset, examining factors such as aircraft category, airport name, and injury severity.

BUSINESS UNDERSTANDING

Importance of Aviation Safety: Discuss the critical nature of safety in aviation, emphasizing how incidents can lead to loss of life, financial costs, and reputational damage.

Objective: Explain that understanding incident data can lead to better safety protocols, training, and ultimately safer air travel.

DATA UNDERSTANDING

Dataset Description: The dataset contains records of aviation incidents with key features such as Airport name.

I identified the target variable and properties of different variables and also got basic information from the dataset.

DATA ANALYSIS

Cleaned my data and made it easy to work with by dealing with missing values, aggregating and visualizing data so as to help the organization make data driven decisions-I related my findings to business intelligence by making recommendations for how the business should move forward with the new aviation opportunity.

FINDINGS

1.Deeper investigation of accident causes-Conduct further analysis into common contributing factors to severe accidents beyond phase of flight and aircraft type.

2.Predictive modeling -Develop machine learning models to predict the likelihood of an accident based on operational and environmental conditions.

3.Realtime risk monitoring-Implement a real time dashboard to monitor aviation safety trends and provide alerts for potential risks.

4.Collaboration with manufacturers and regulators- They should work with aircraft manufacturers and aviation regulatory bodies to implement data driven safety improvements.

DATA VISUALIZATION

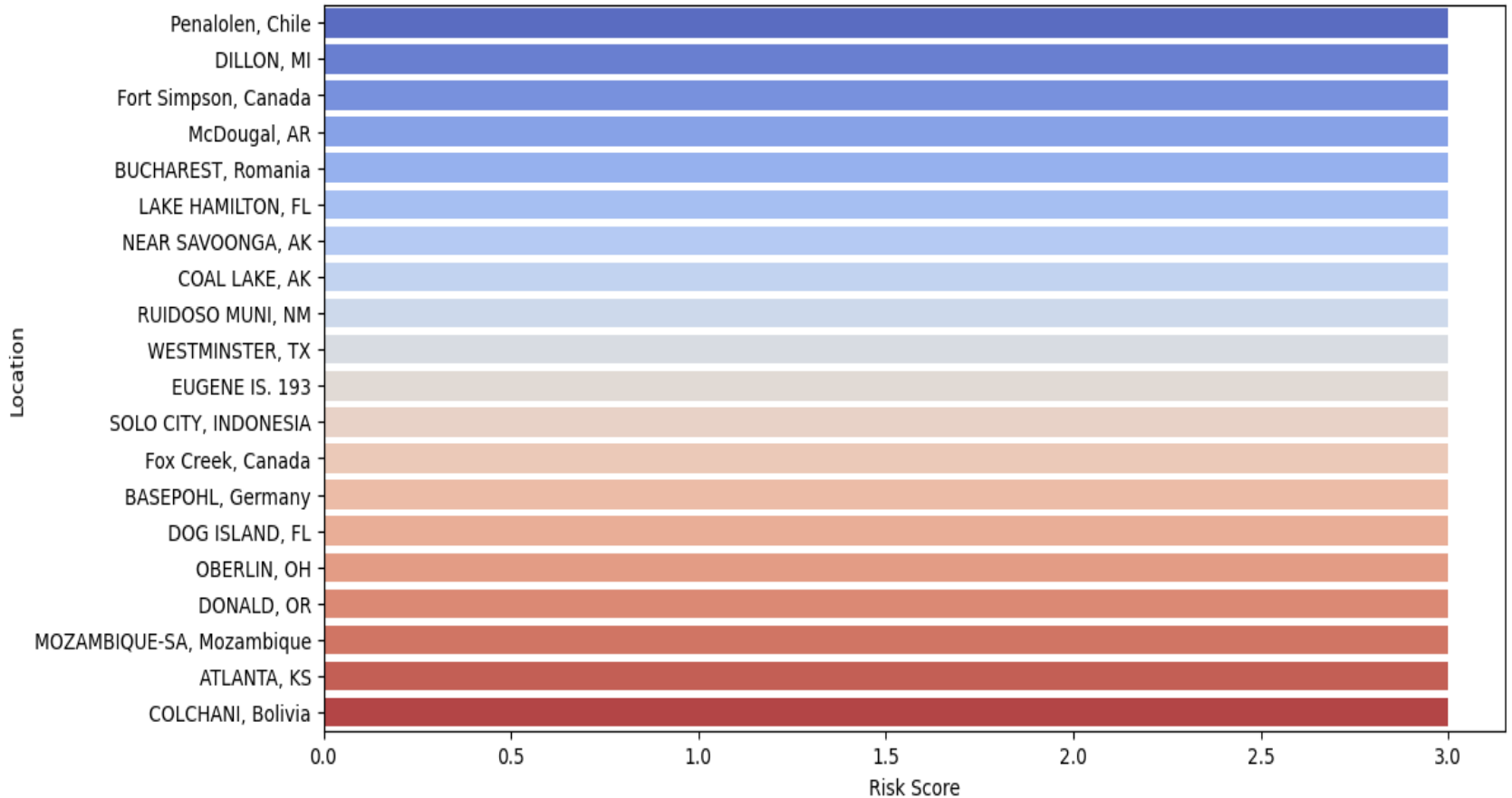Here I made some graphs to show my findings from analyzing the data.

Risk Rankings of Aircraft Categories

RISKIEST AIRCRAFT MAKE
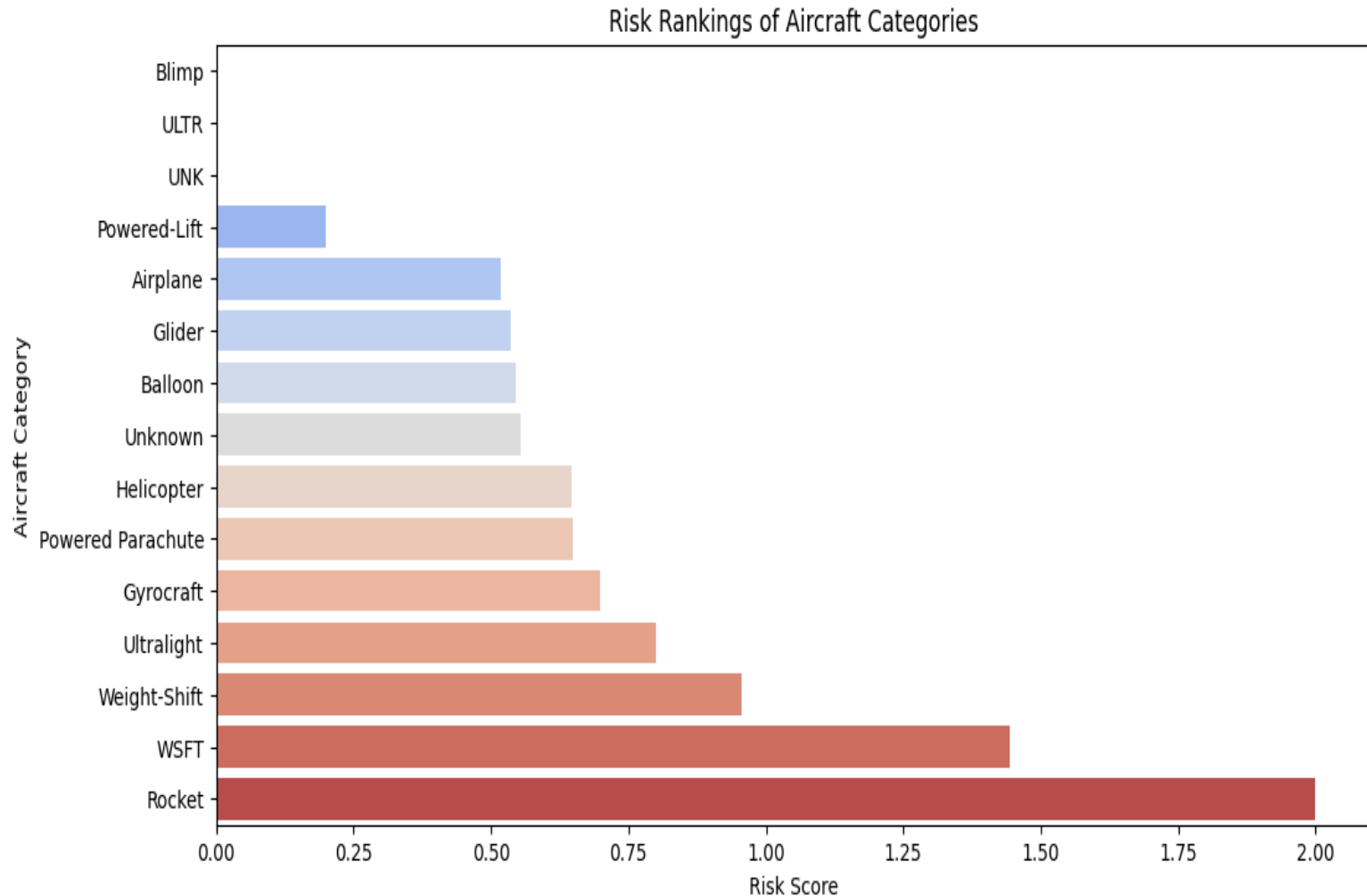
Riskiest Aircraft Makes
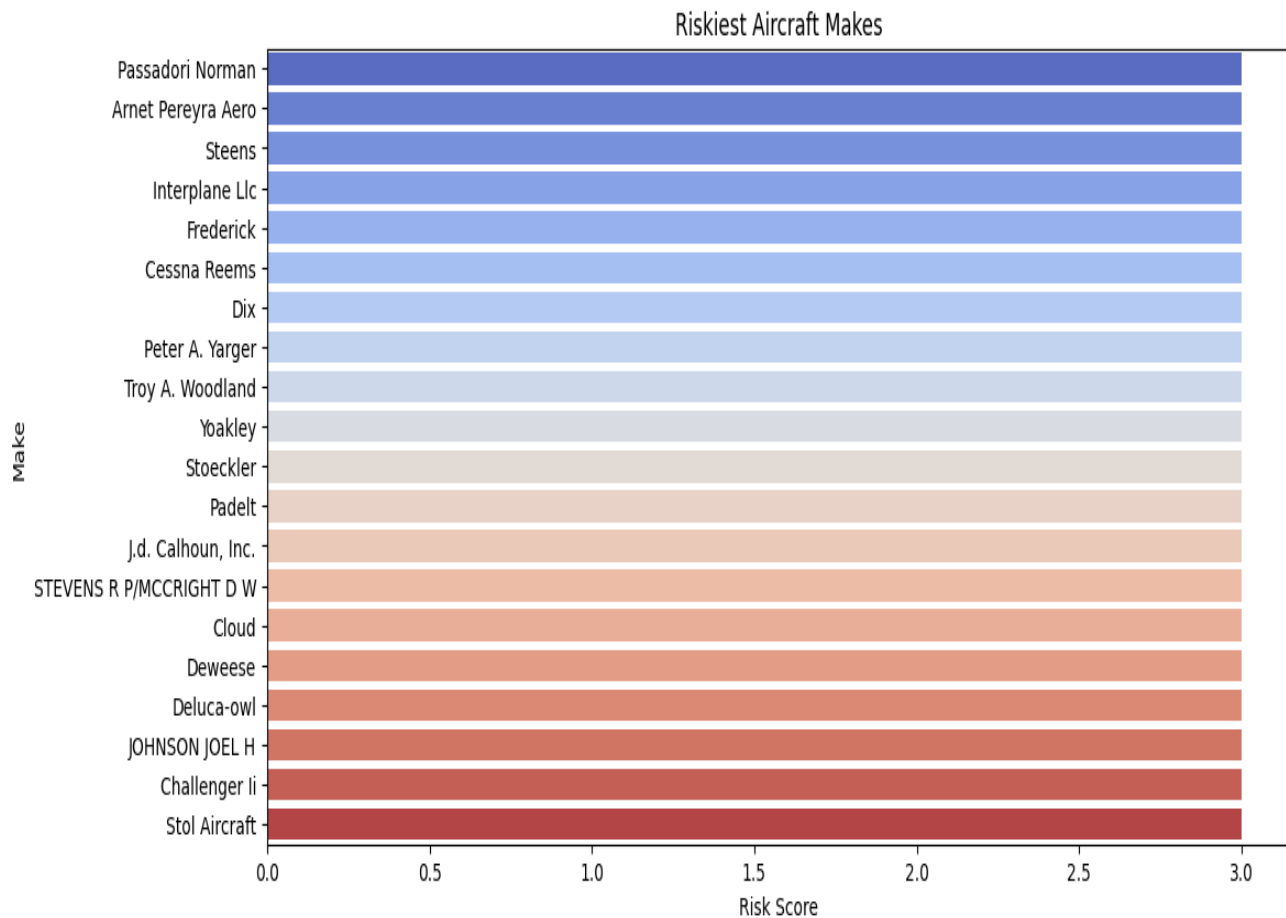
LOCATION WITH MOST ACCIDENTS

Riskiest Locations for Accidents

END

RECOMMENDATIONS

1.Purchase safer aircraft categories and makes - Invest in aircraft models with the lowest accident rates and the best safety records.   Avoid purchasing models with historically high severe accident rates.

2. Avoid high-risk locations for operations- Prioritize setting up operations in locations with lower accident frequencies. Implement additional safety protocols if operating in highrisk areas.

3.Enhance safety measures during critical flight phases - Focus on improved pilot training for takeoff and landing phases. Invest in better aircraft maintenance and monitoring systems to prevent mechanical failures.