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CS230 Final Project

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<div align="center">Airports Data Visualization on Streamlit</div>

Questions for insights:

- What is the highest airport elevation in the dataset?
- How many airports are there in each country?
- Which type of airport (heliport, small_airport, or closed) is the most common in this dataset?

Results:

A data table that is available for a dataset "Airports Around the World," can be used to present query results such as the name, type, and elevation of airports. The table can be sorted based on any column and can also be paginated to help the user navigate through large query results.

In my streamlit server, I was able to filter the data so it has sidebars that are based on "country", "elevation", and "type of the airport."

Regarding the sidebar, the elevation_ft column represents the elevation of each airport. A slider widget can be used to allow the user to specify a minimum and maximum elevation and display all airports that fall within that range.

Also, there is Radio button available. A radio button widget can be used to allow the user to choose between the different airport types (heliport, small_airport, or closed) and display only the airports of the selected type.

According to the user's preferred input, the relevant data will show up. The user can enter the name or part of the name of an airport in a text input widget and display all matching airport records.To be able to visualize the sidebar, I was able to use the **streamlit** feature.

I also created a bar chart that can be used to visualize the number of airports in each country. The x-axis would represent each country, and the y-axis would represent the number of airports. This

can help the user quickly compare the number of airports across different countries. To accomplish this goal, I utilized **plotly.express** library

On top of this, I was able to create a histogram that can be used to visualize the distribution of airport elevations. The x-axis would represent the elevation range, and the y-axis would represent the number of airports within each range. This can help the user quickly understand the range of airport elevations and their distribution. To accomplish this goal, I utilized **plotly.express** library

Additionally, I created a pie chart that displays the distribution of airport categories. I used **plotly.express** library as well.

To display the location of each airport, I decided to use the map on a scatter plot. A scatter plot can be used to visualize the latitude and longitude coordinates of each airport on a map. Each point on the scatter plot represents an airport, and the x-axis represents the longitude coordinate while the y-axis represents the latitude coordinate. This can help the user quickly understand the geographical distribution of airports. Regarding the map, it can be used to display the location of each airport. The airports can be represented by markers on the map, and the user can interact with each marker to view more details about the airport. This can help the user quickly understand the geographical distribution of airports and their proximity to other locations such as cities or bodies of water.