

■ Impact of the COVID-19 Pandemic on the Airline Industry

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OVERVIEW



01

SCOPE OF THE PROJECT

To discover if there is any correlation between major disease outbreaks and flight volume within the 5 most frequented airports in the U.S.



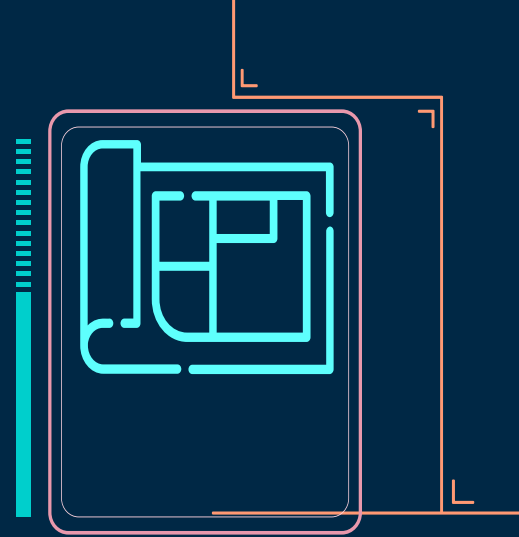
02

PURPOSE OF THE PROJECT

To understand the nature of disease outbreak and how it has impacted the economy, specifically, the airline industry.


OUR APPROACH

- Initial interest in the airline industry
- COVID-19 has tremendously impacted air travel around the world
- Air carriers are one of the major modes of transportation in the U.S.
- Focus on the current pandemic situation and its impact on flight volume in the U.S.
- Comparing the COVID-19 pandemic to the Influenza outbreak




WORK BREAKDOWN

MAX




Observing the numbers of departure seats between 2016 and 2020.

DANNY




Observing the flight volume in the 5 major U.S. airports

DAVE



Exploring the trend of Influenza pandemic

JAYDEN



Comparing the flight volume data from 2019 to 2020 (Covid-19) and 2017 to 2018 (Influenza)

PALIDA



Exploring the COVID-19 data and understanding the statistics

DATA MANIPULATION

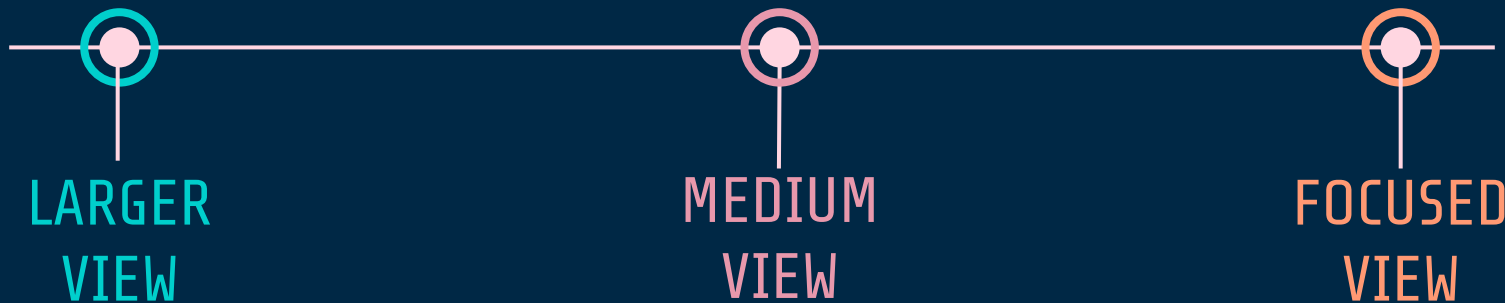
Data Sources:

1. Center for Disease Control
2. World Health Organization
3. Kaggle
4. Bureau of Transportation
5. Federal Aviation Administration

Data Cleaning Process:

1. Data conversion
2. Data Merge
3. Fill-in missing values
4. Unit conversion
5. File conversion
6. Excess columns removal

OVERVIEW OF THE ANALYSIS



LARGER VIEW

Looking at the general view of the departure seats in 5 major U.S. Airport, over 5 years

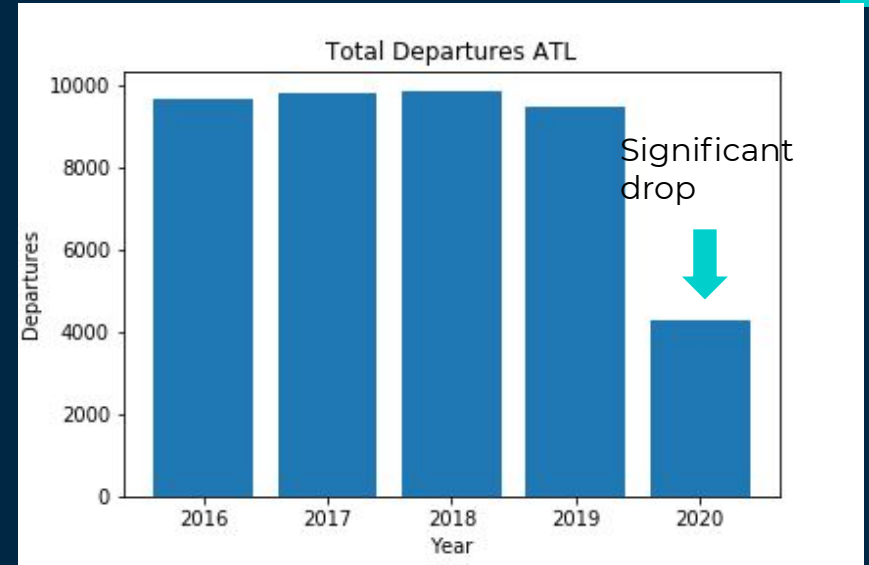
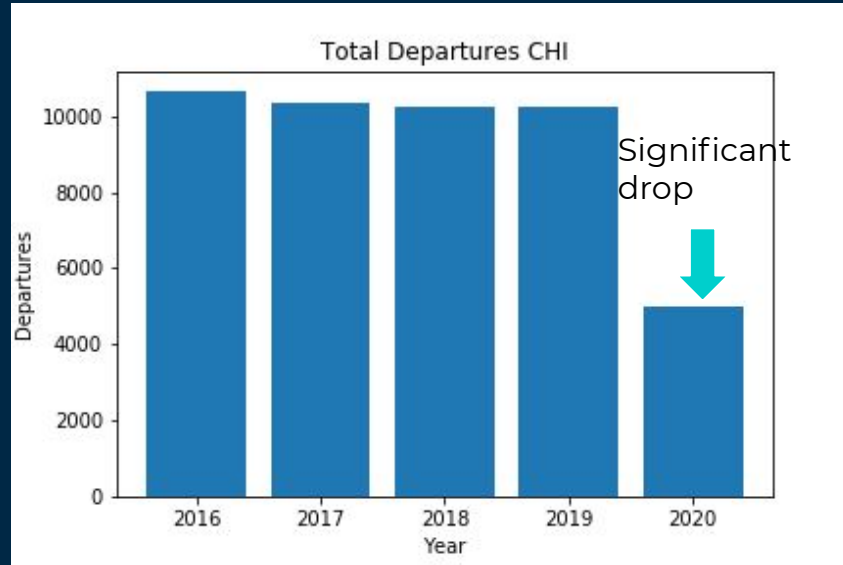
MEDIUM VIEW

Observing for the impact of Influenza and COVID-19 pandemic in 2018 & 2020 (by specific months)

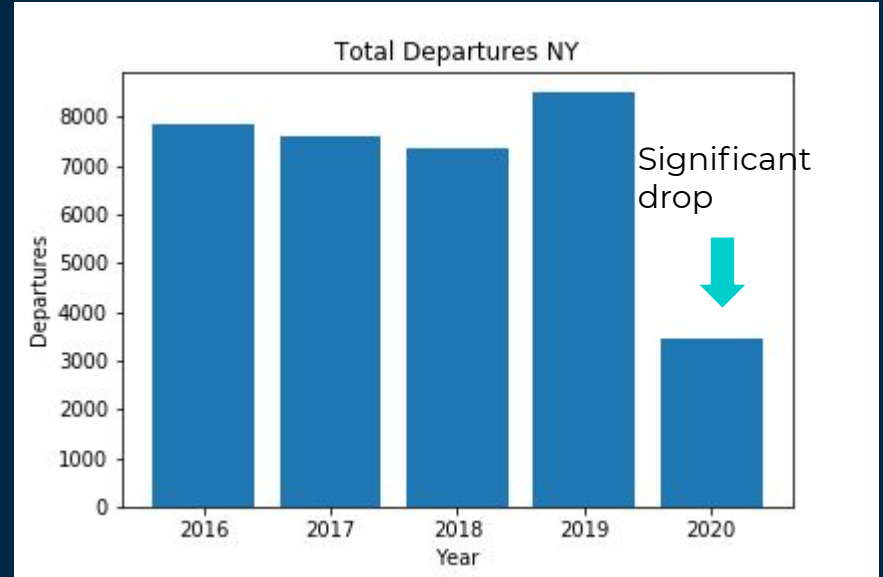
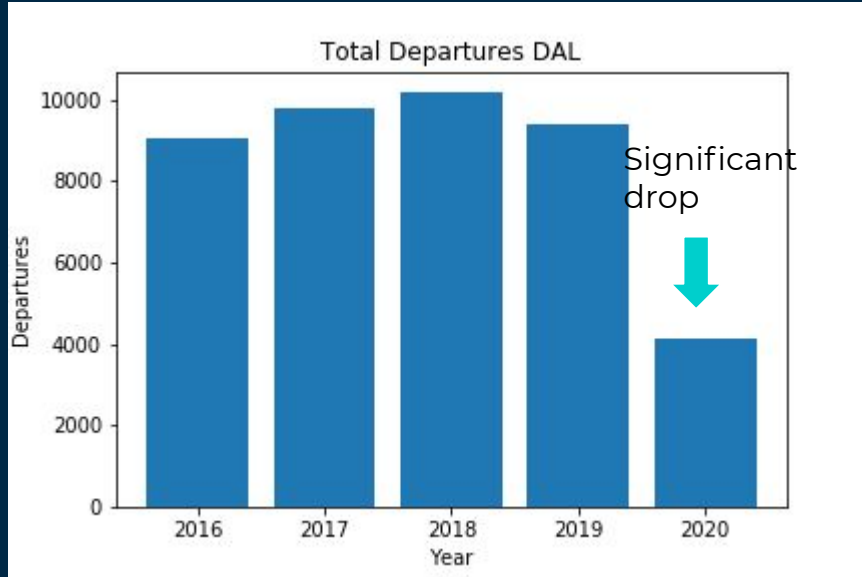
FOCUSED VIEW

Discovering the impact of Influenza and COVID-19 pandemic in 2018 & 2020 (by specific months)

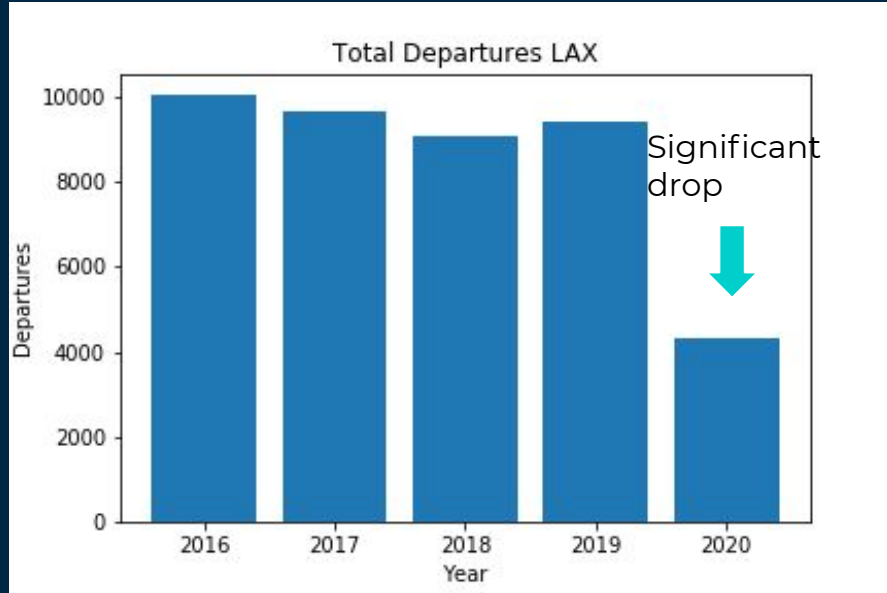
ANALYSIS: TOTAL DEPARTURES



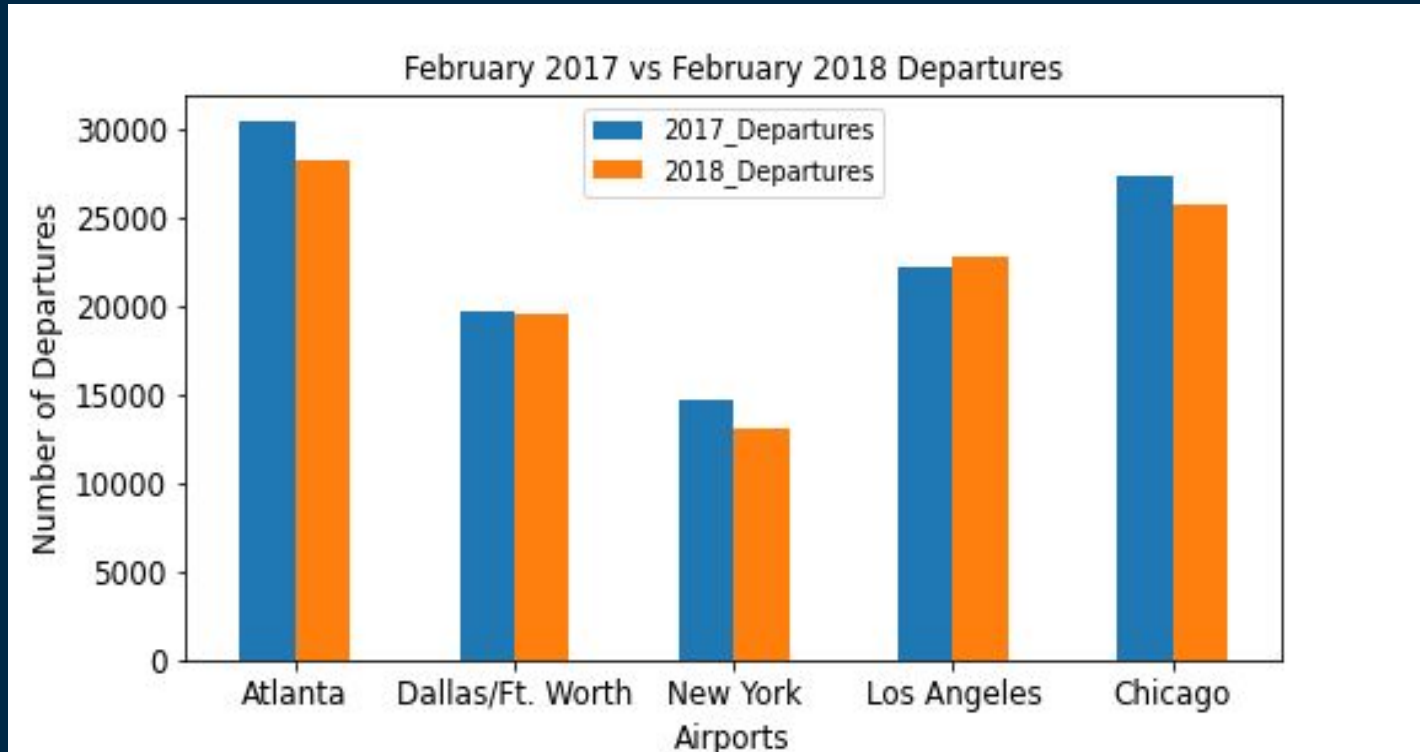
ANALYSIS: TOTAL DEPARTURES



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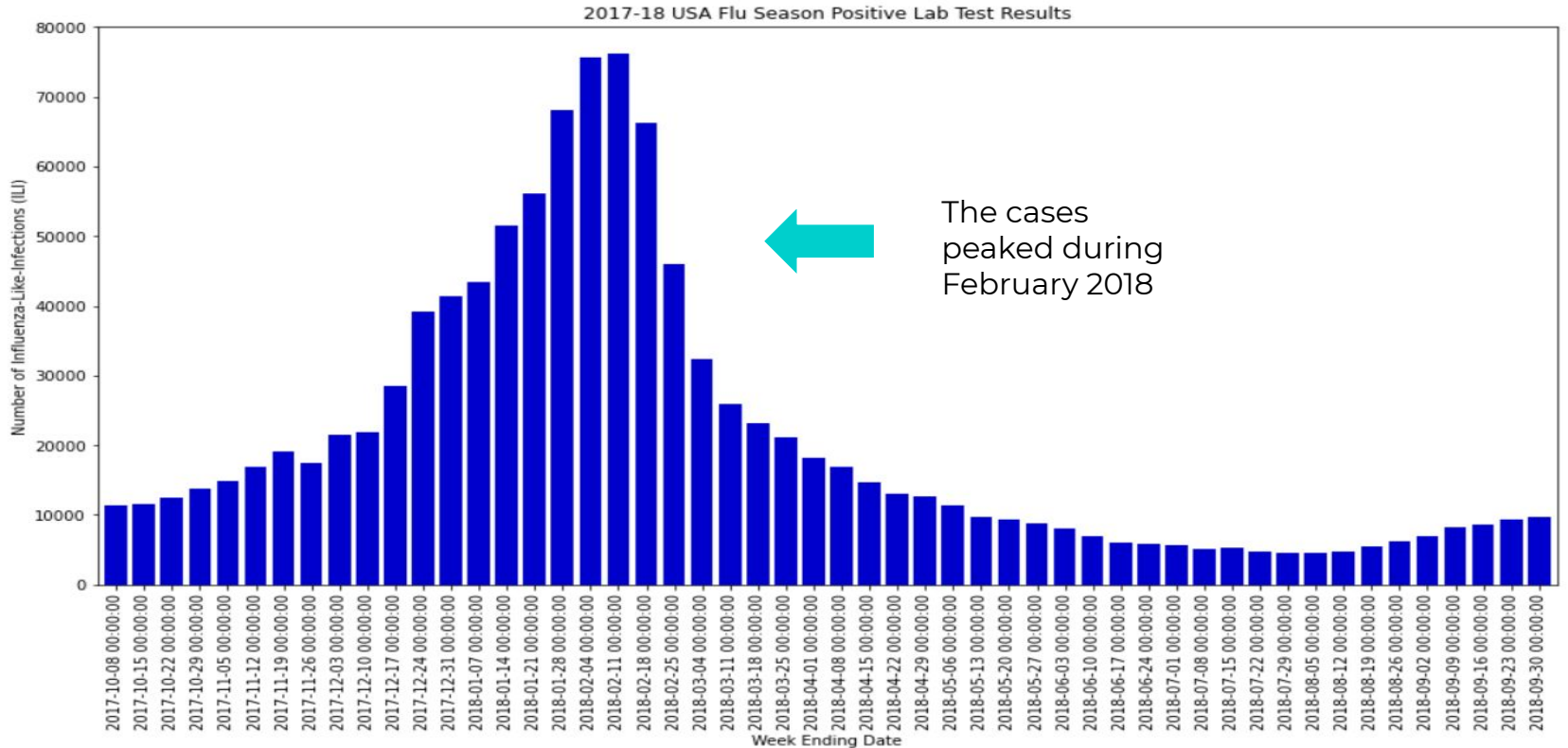
ANALYSIS: 2017 to 2018 Flight Volume



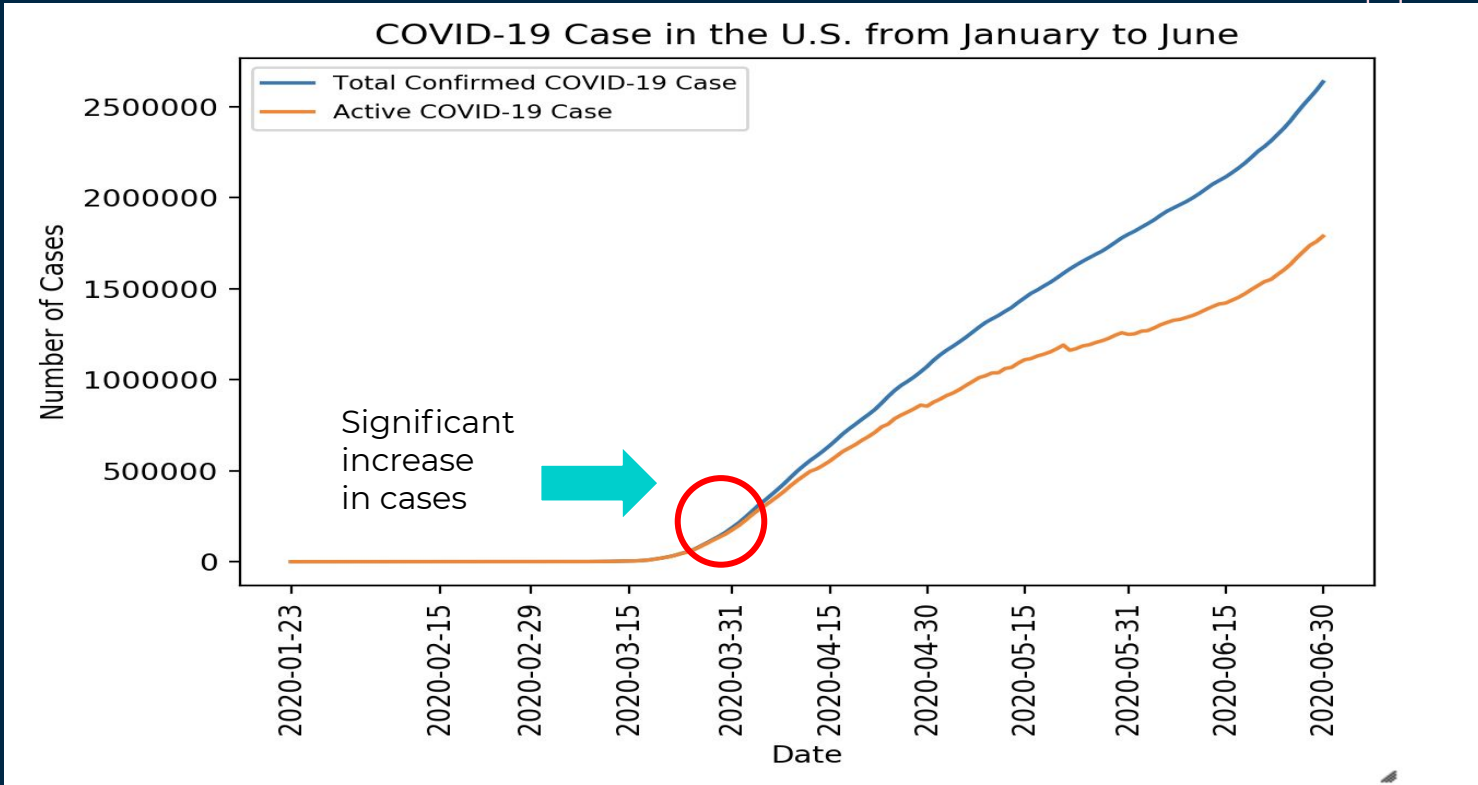
ANALYSIS: 2019 to 2020 Flight Volume



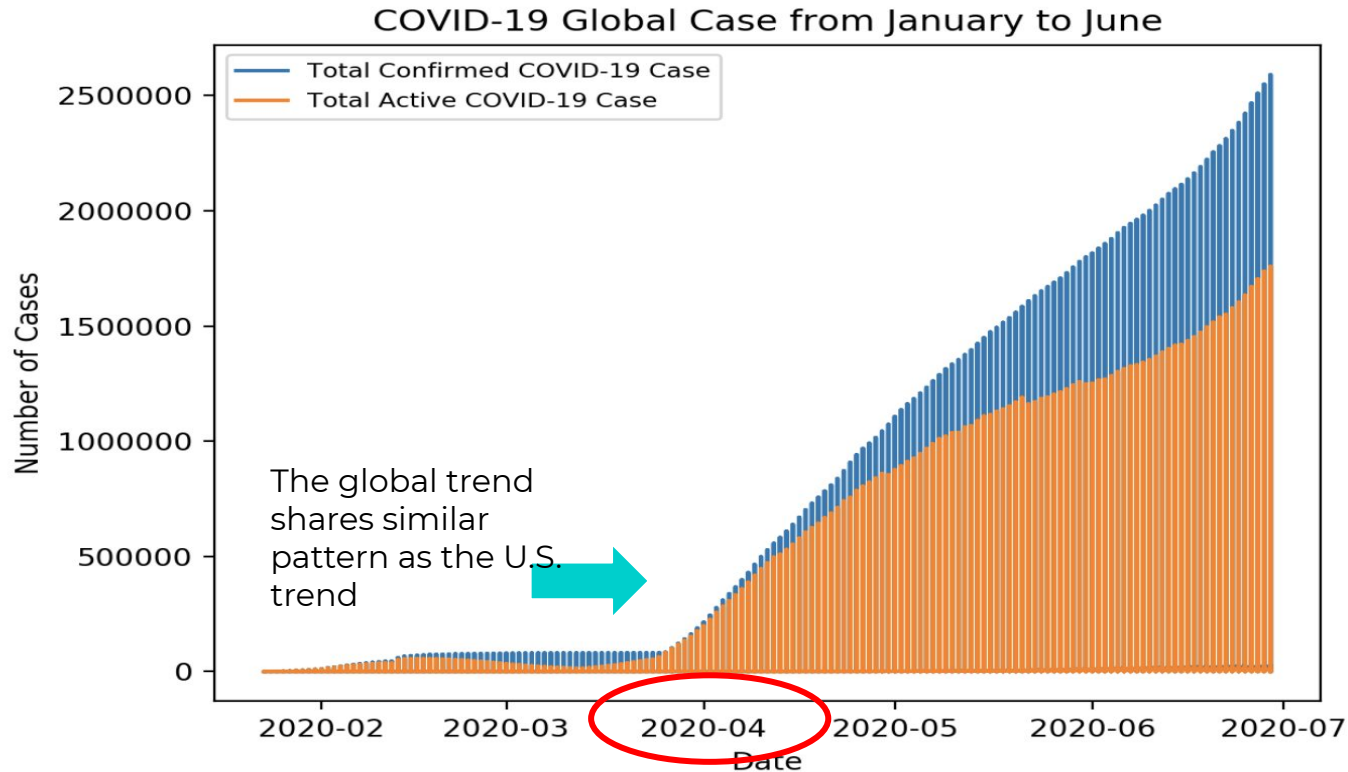
ANALYSIS: 2017-2018 U.S.A. Flu Season



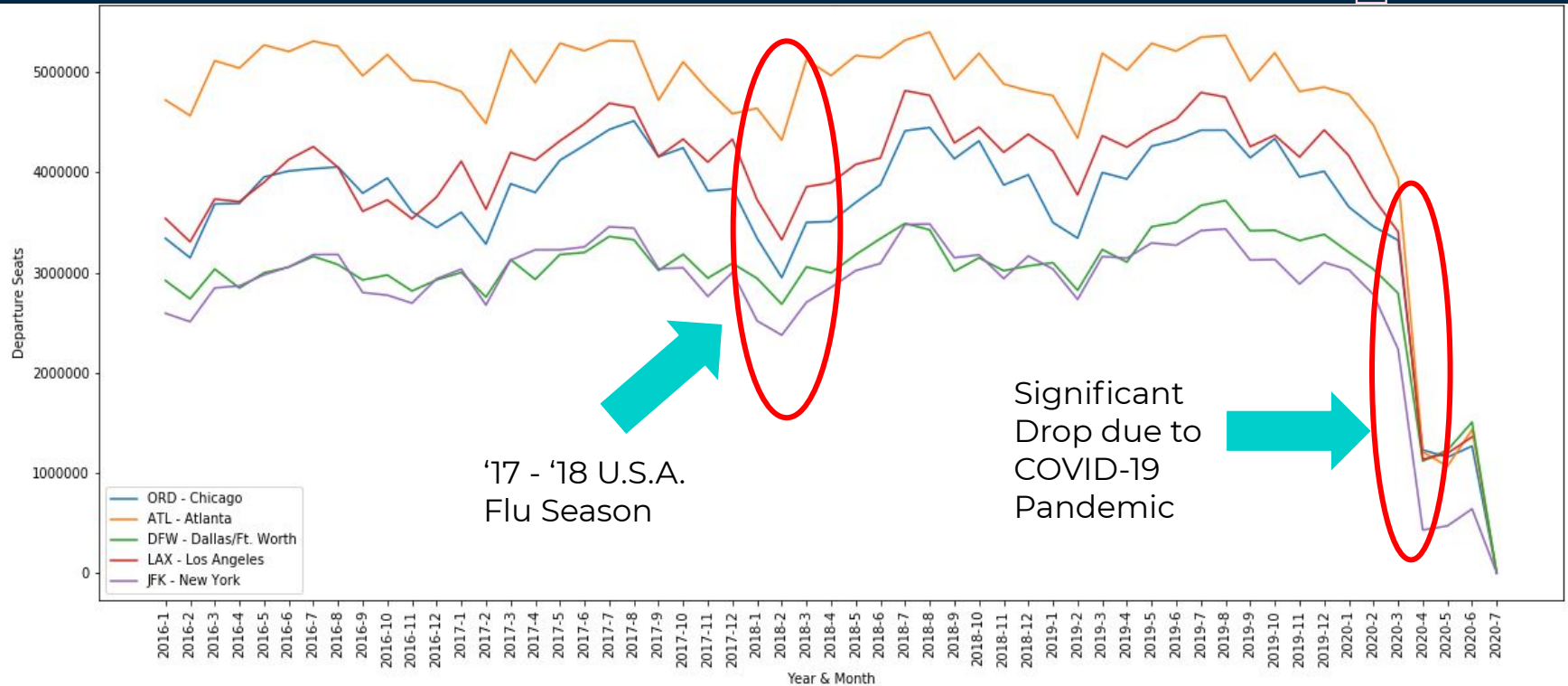
ANALYSIS: COVID-19 Cases in the U.S.



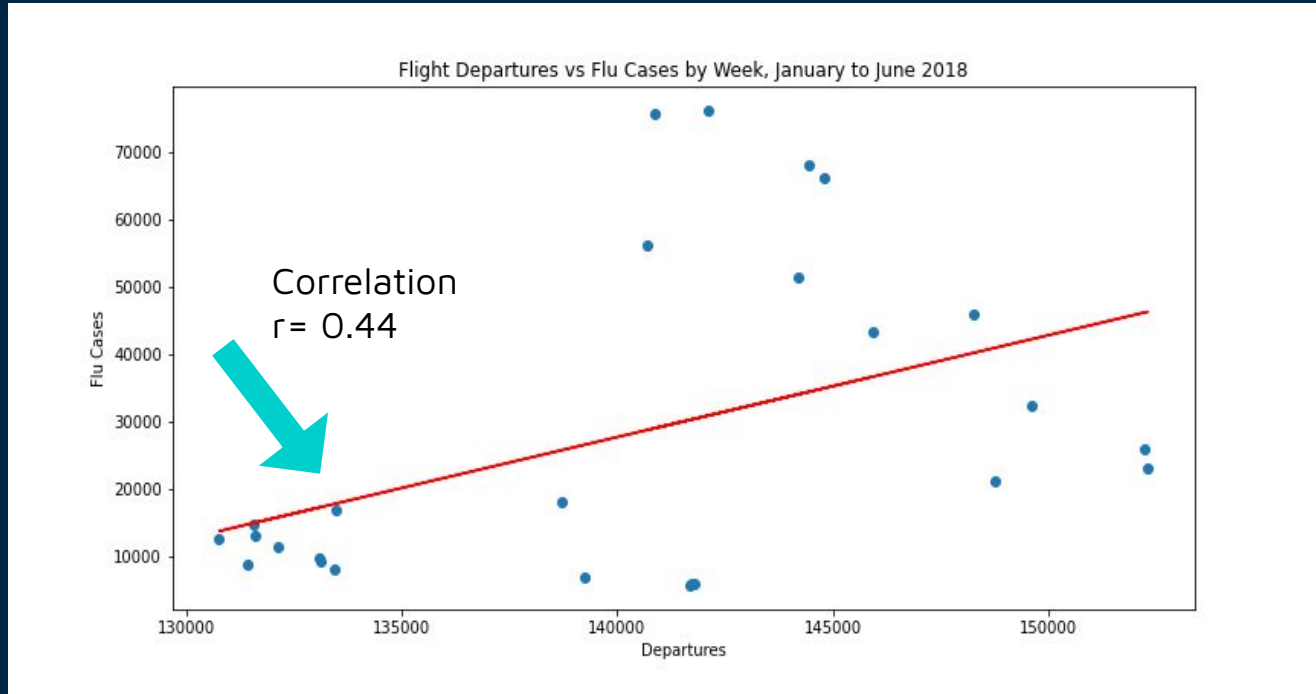
ANALYSIS: COVID-19 Global Cases



ANALYSIS: Departure Seats vs. Virus Outbreaks

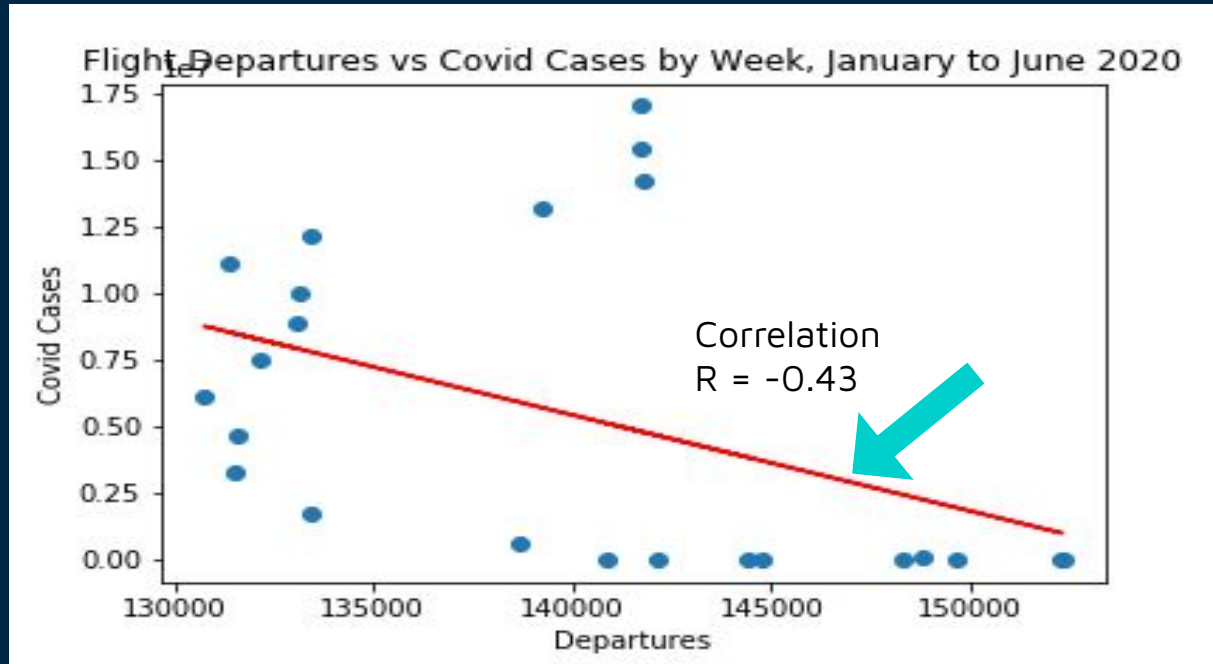


Flu Cases vs Departures



The correlation value between the number of flu cases and number of departures is weak/moderate

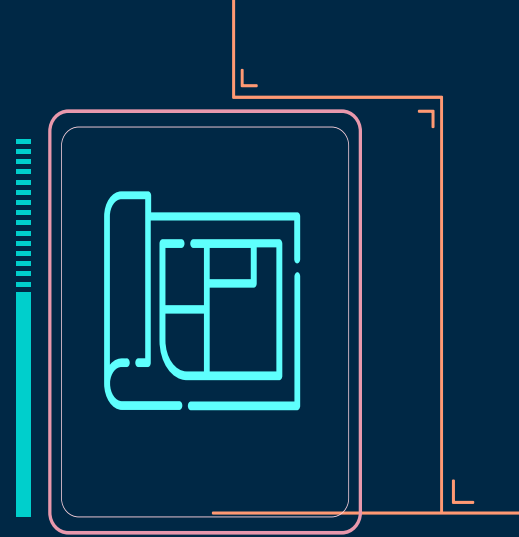
Covid-19 vs Flight Departures



The correlation value between the number of flu cases and number of departures is weak/moderate

CONCLUSION

- There was a significant impact of COVID-19 on flight volume in 2020.
- There was a moderate positive correlation between the change in flight departures from the 5 major US airports and the US influenza outbreak in 2018. Whereas there was a negative moderate correlation between flight departures and the COVID-19 pandemic in the United States.



THANK
YOU