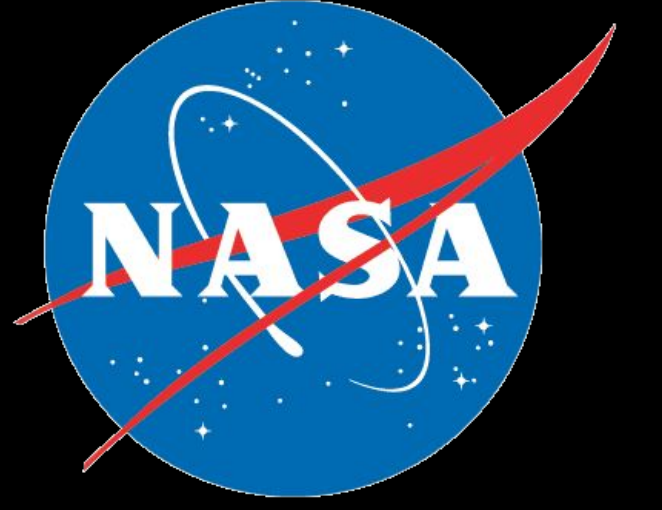


Covid-19 & Air Traffic Tracker

National Aeronautics and Space Administration

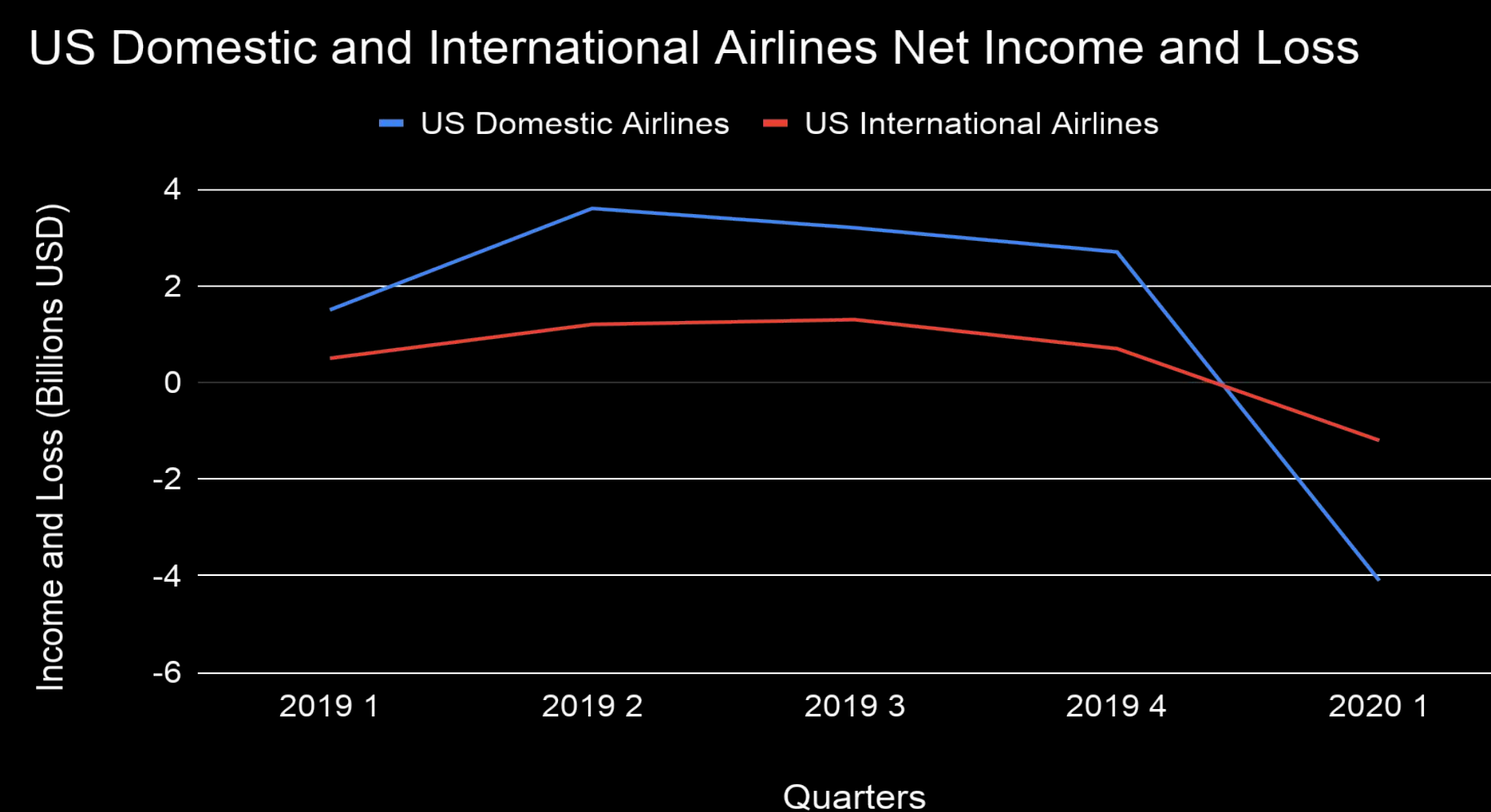
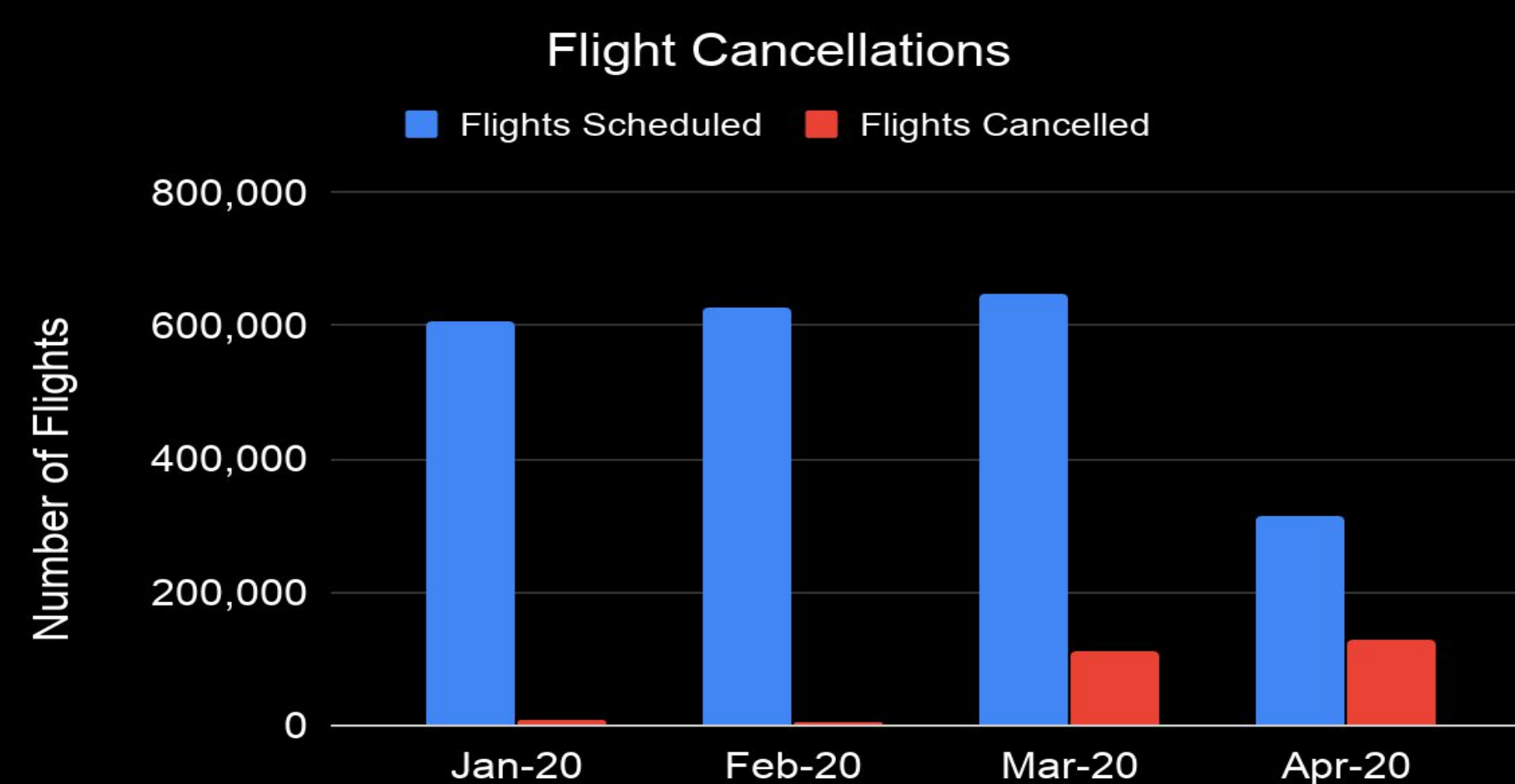
Neil Kaushikkar University of Illinois at Urbana-Champaign
Mckenna Brown Carnegie Mellon University
Gregor Limstrom Santa Clara University
Abhishake Karmarkar Penn State University
Bre Wright Langston University
Jelena Herriott Langston University
Sophia Peceli Sacramento State University



Objectives

- **Analyze** changes in air traffic operations
- **Predict** possible scenarios weeks or months in the future
- **Visualize** findings and predictions in a dashboard

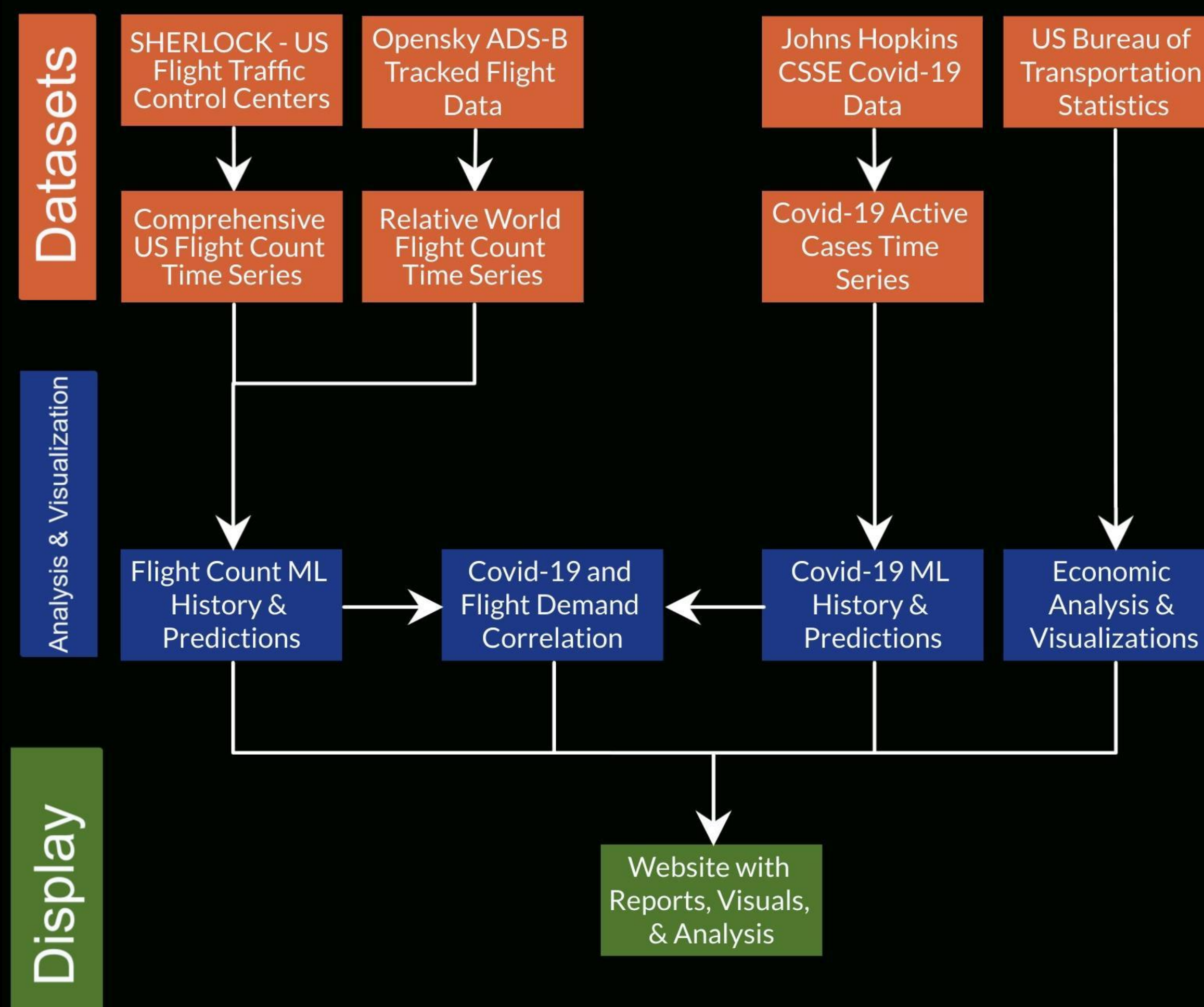
Motivation



- \$5.2 Billion total loss in US Airline industry Across 2020 Q1
- US Airline Industry received \$25 Billion Bailout in government grants and loans.
- General fear of flying & flight demand shocks

Methodology

DATA SOURCES & USES

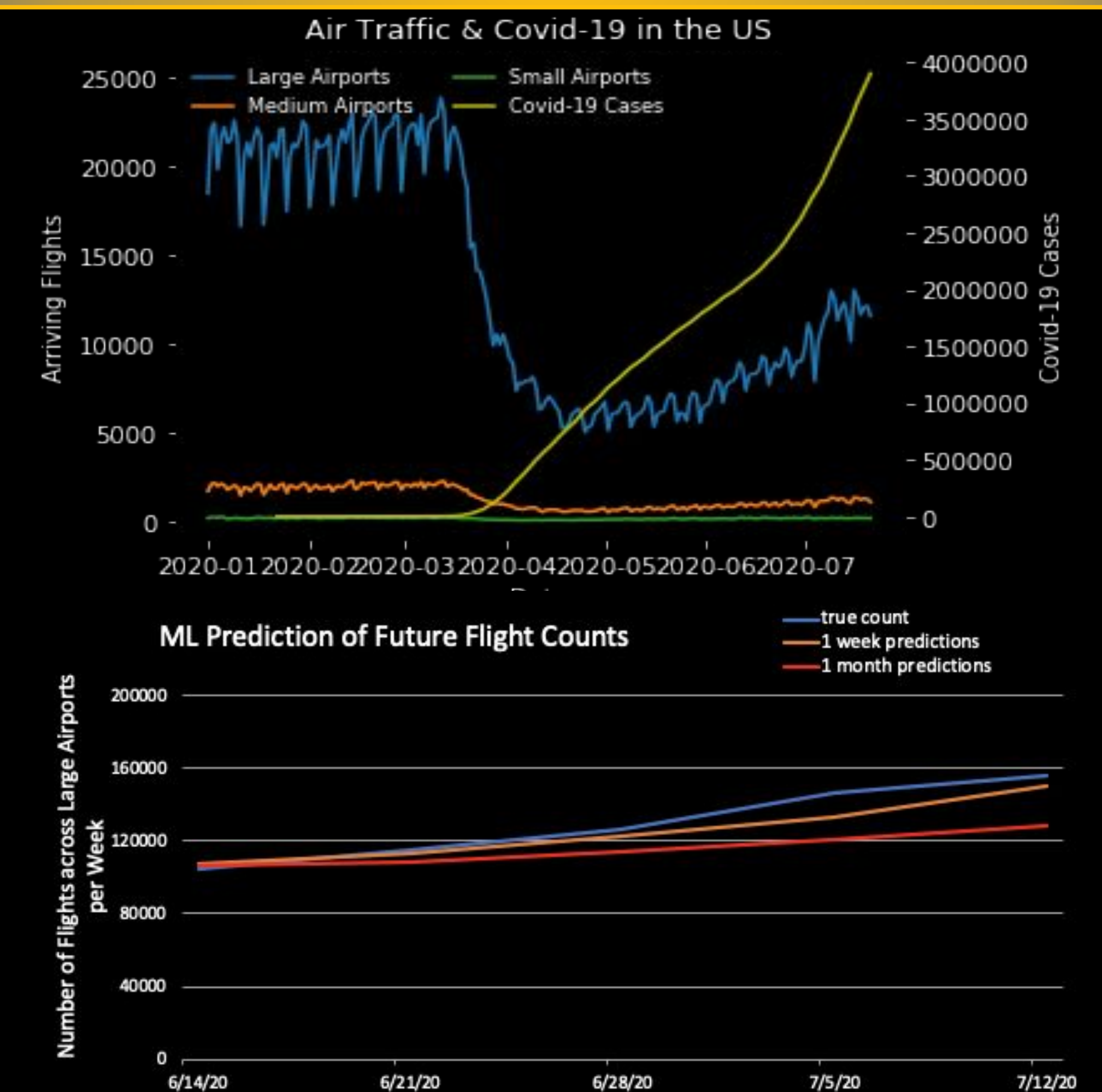


- Combine scraped data into a time series
- Use ML models to predict air traffic & Covid-19 cases 1+ week into the future
- Store results on an internal data warehouse

Conclusion

- Can predict flight volumes 1 week into future with $r^2=.965$, 1 month into future with $r^2=.814$
- The initial spread of Covid-19 in the US strongly correlates to air travel
- Airlines are optimizing for cash flow and minimizing short term expenses instead of optimizing on long term profits
- Industry recovery is a matter of the public's perception of their safety

Results



- Future iterations will incorporate additional factors such as social distancing and/or safety measures

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