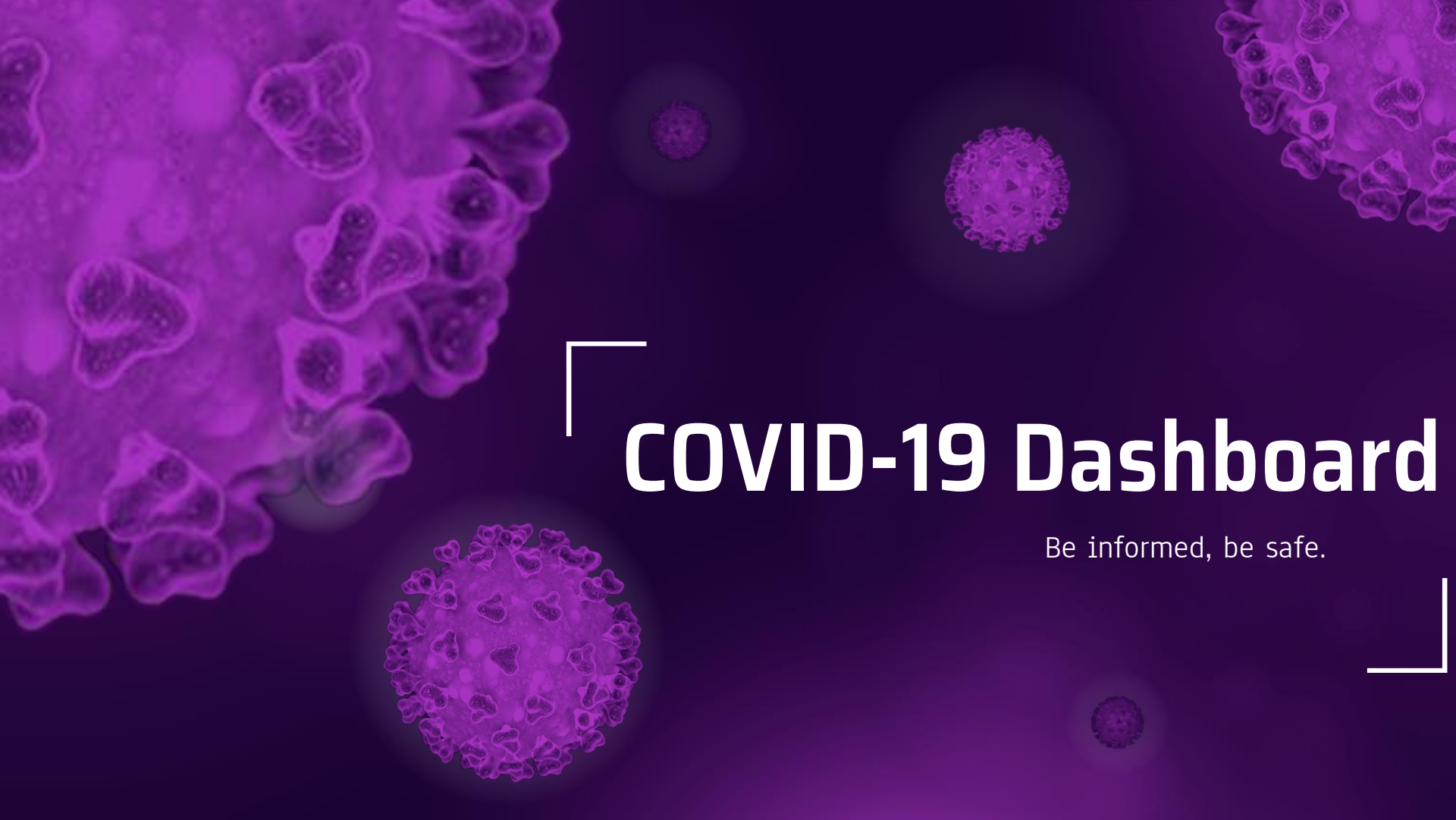

COVID-19 Dashboard
Be informed, be safe.

Motivation

Motivating Factors

- COVID-19 has had and continues to have a huge impact on the daily lives of people around the globe. Difficult to know what the next day or week might look like.
- Different types of information are located in various sources.
- News streams were (and still are to a degree) flooded with articles and information that it could become overwhelming to look at any source in detail

Mission

Centralize Functionality

Reduce Choice Overload

Forecast

Data Sources

https://covid19api.com/

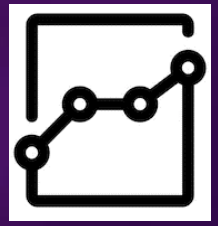
- Free API with no key required
- Data is updated multiple times a day
- Sourced from John Hopkins CSSE Dept.
- Contains data for each day and country on the number of confirmed cases, deaths, and recoveries. Some countries have granularity down to regions, states, or cities

https://newsapi.org/

- Free API, key required
- Data is updated at least daily
- Many different types of data requests can be made.
- For this tool only headlines pertaining to COVID-19 from a couple select news sources are pulled

Modeling

Model Details



Type: Basic ARIMA model
1 global model &
1 model per country

Evaluation Approach

Forward Chaining CV for global model

Last 7 days as test set for country level models

Success Criteria

Target: Average MAPE < 15%

Achieved:

- global model: 12.6%
- country models: 5.6%

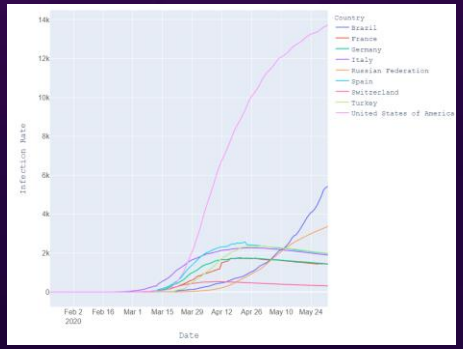
Insights

Modeling Notes

- Some countries had inconsistent reporting making forecasting difficult
- Some countries had cases began much later than others, meaning lesser accumulation of data and thereby more difficult to forecast

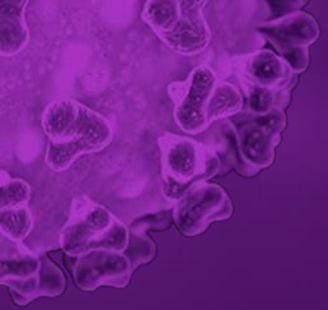
EDA/Tidbits

- The US accounts for roughly 30% of cases worldwide while accounting for only 4.5% of the world's population
- Highest Avg Weekly Infection Rate (#New Cases/week): US highest by factor of 3. Next top countries are: Turkey, Brazil, China, Italy, and Spain w/relatively similar magnitudes for these
- The countries that are experiencing the largest absolute rate of new cases over the last week are: Brazil, USA, Russia, India, and Peru.
- The countries who are seeing the largest rate of confirmed cases compared to the rate of the previous week are: Israel, Philippines, Iraq, Oman, and Azerbaijan



	Country	rate
44	Brazil	20825.428571
352	United States of America	18538.142857
274	Russian Federation	7523.428571
150	India	7348.285714
260	Peru	5305.000000

	Country	rate	last_rate	factor_in_rate_increase
33	Israel	72.142857	12.857143	4.611111
50	Philippines	594.285714	206.857143	1.872928
31	Iraq	387.285714	160.571429	1.411922
46	Oman	646.857143	296.428571	1.182169
5	Azerbaijan	214.428571	110.285714	0.944301



THANKS!