
Prediction of COVID-19 cases

By using *machine learning*



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The Story

- Presenting an predictive model, that would help for preparedness and accommodate response, using machine learning techniques on top COVID-19 outbreak data, all around the world.
- Today we face a great challenge in our lives the likes of which we've never seen.
- A pandemic has hit the entire world.
- In order to better understand how different areas are affected, we display data for different countries of the world.
- To keep it relative in each country, the counts are listed as occurrences per million.
- We also wanted to see the relationship between GDP per capita (spending power) and hospital beds (access to healthcare).

The TechStack

- Data Source
 - Our World in Data -
<https://ourworldindata.org/>
- MongoDB
- Python/PyMongo/Flask
- Bootstrap/jQuery
- Plotly
- SKLearn/matplotlib
- (Linear/Nonlinear) / Ridge
RegressionsSingle/multiple, dynamic
traces

Deaths Per Million

Selected Location(s): **United Kingdom,United States,Venezuela**

SELECT LOCATION(S):

Uganda
Ukraine
United Arab Emirates
United Kingdom
United States
United States Virgin Islands
Uruguay
Uzbekistan
Vatican
Venezuela
Vietnam
Western Sahara
Yemen
Zambia

Ctrl + click to select multiple

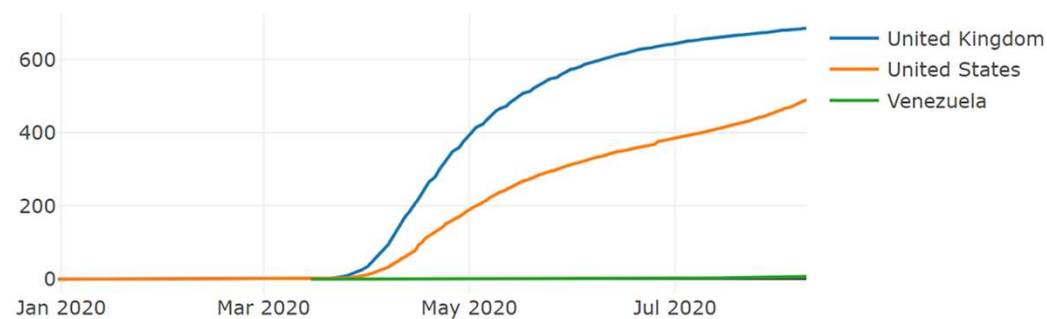
Deaths Per Million

Cases Per Million

GDP vs. Hospital Beds

Compare

Predictions



Cases Per Million

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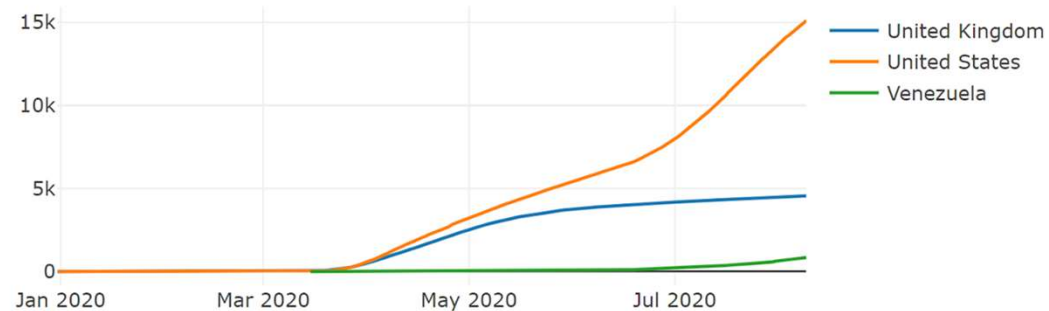
Deaths Per Million

Cases Per Million

GDP vs. Hospital Beds

Compare

Predictions



GDP vs. Hospital Beds

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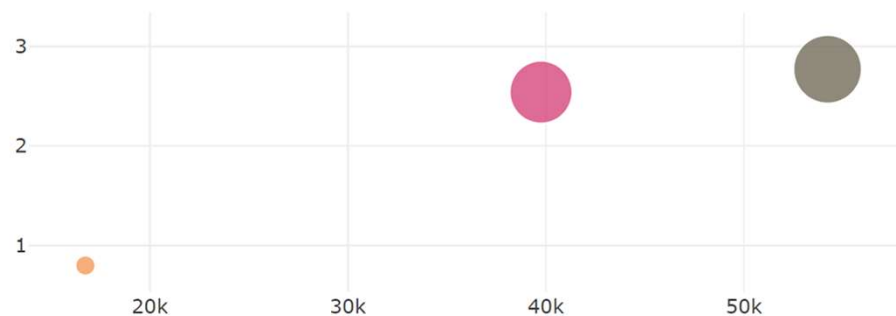
Deaths Per Million

Cases Per Million

GDP vs. Hospital Beds

Compare

Predictions



Compare Features



Predictions

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Ctrl + click to select multiple

[Deaths Per Million](#)

[Cases Per Million](#)

[GDP vs. Hospital Beds](#)

[Compare](#)

[Predictions](#)

Select Location and Date:

United States

09/25/2020

Go

Predictions for United States as on 09/25/2020:

Total Cases: **5,501,263**

Total Deaths: **225,180**

Live Demo



Conclusion

- The details that are changing because of the outbreak and conditions, they can be predicted using mathematical models, taking out the heuristics and judgment.
- Countries seem to be affected more than others.
- Higher spending power (GDP per capita) is not an indicator of better access to healthcare.
- More hospital beds does not guarantee lower death rate.

Questions?