Prediction of COVID-19 cases

By using *machine learning*

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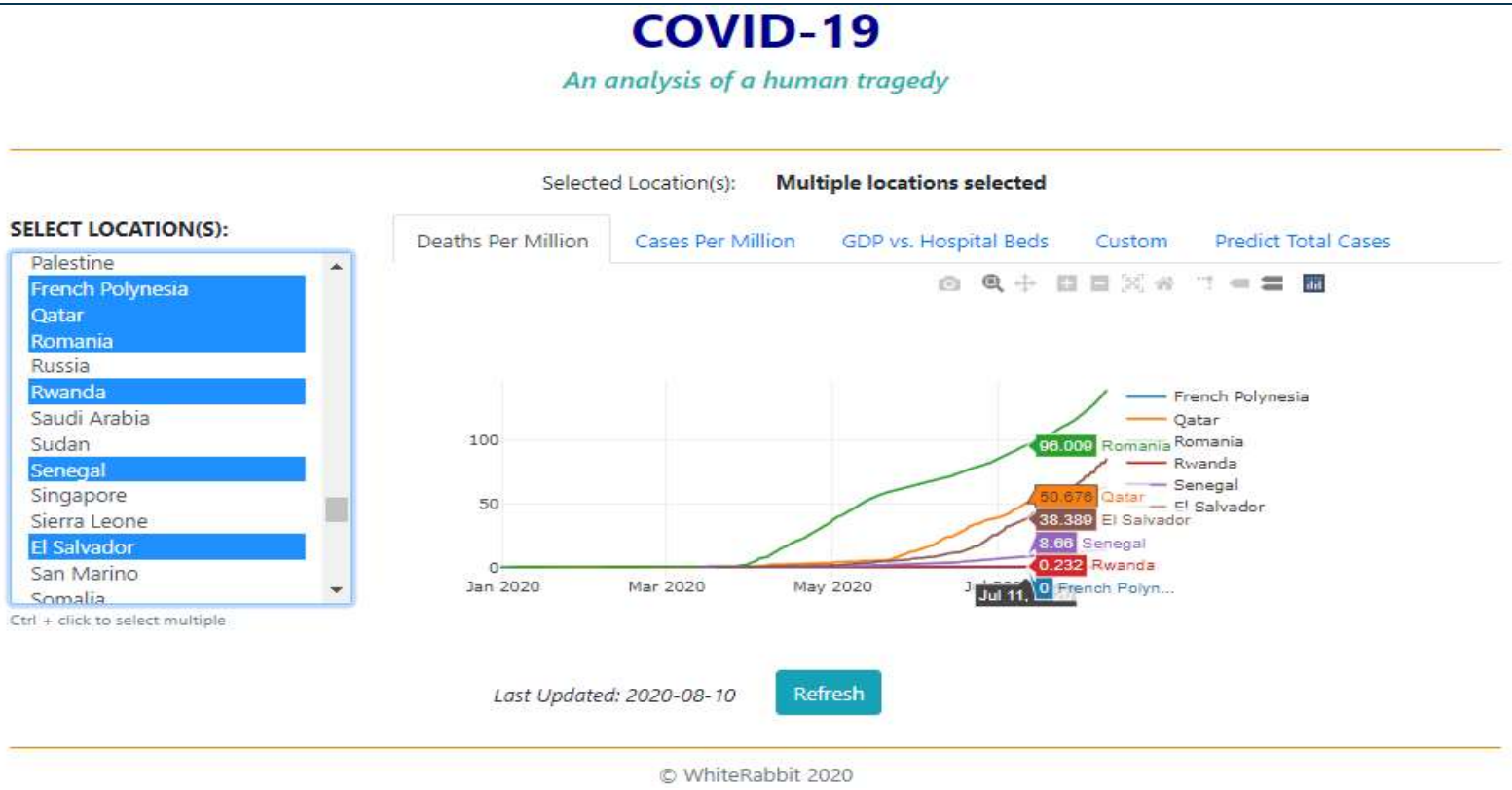
The Story

- **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



Cases Per Million

COVID-19

An analysis of a human tragedy

Selected Location(s): **Multiple locations selected**

SELECT LOCATION(S):

Palestine
French Polynesia
Qatar
Romania
Russia
Rwanda
Saudi Arabia
Sudan
Senegal
Singapore
Sierra Leone
El Salvador
San Marino
Somalia

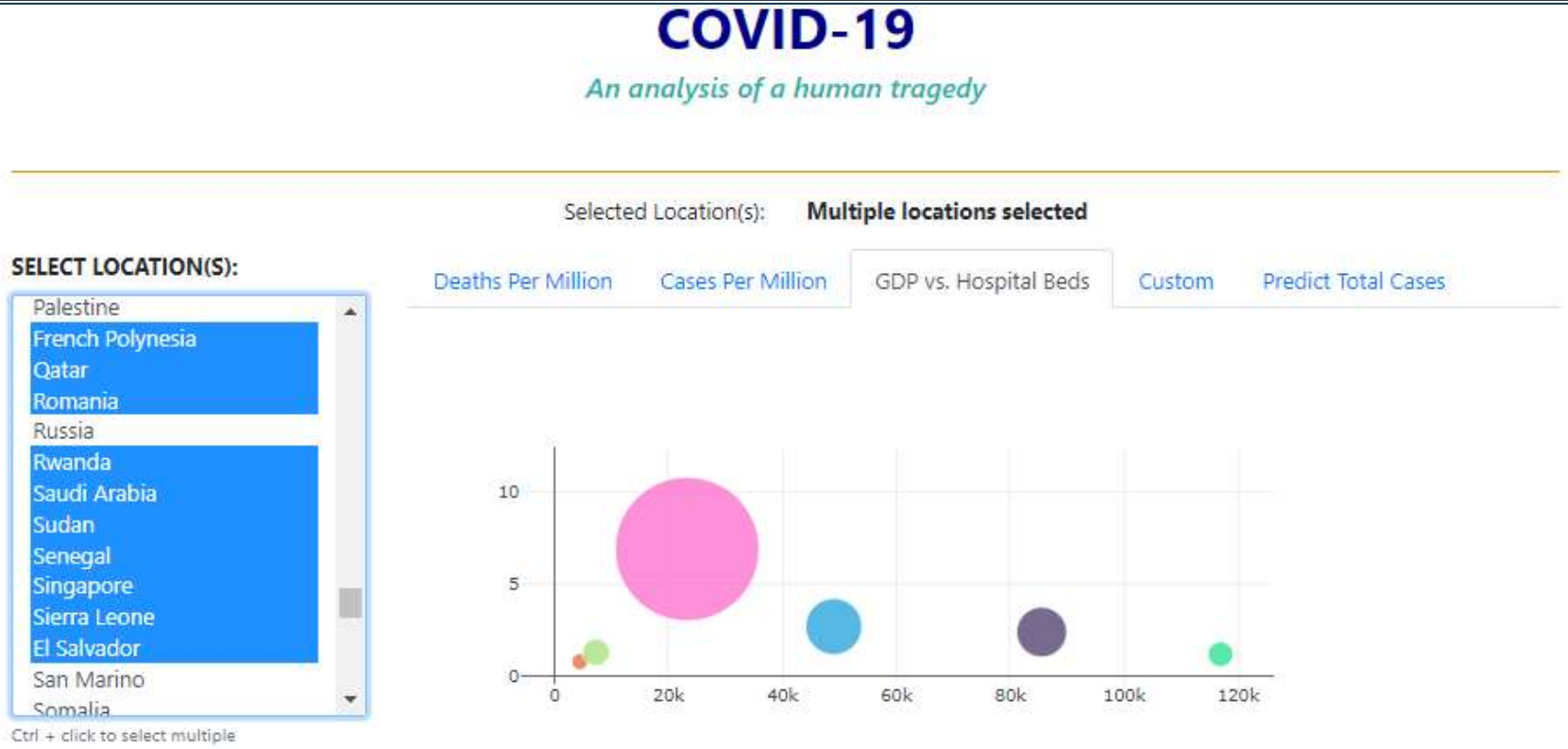
Ctrl + click to select multiple

Deaths Per Million | Cases Per Million | GDP vs. Hospital Beds | Custom | Predict Total Cases

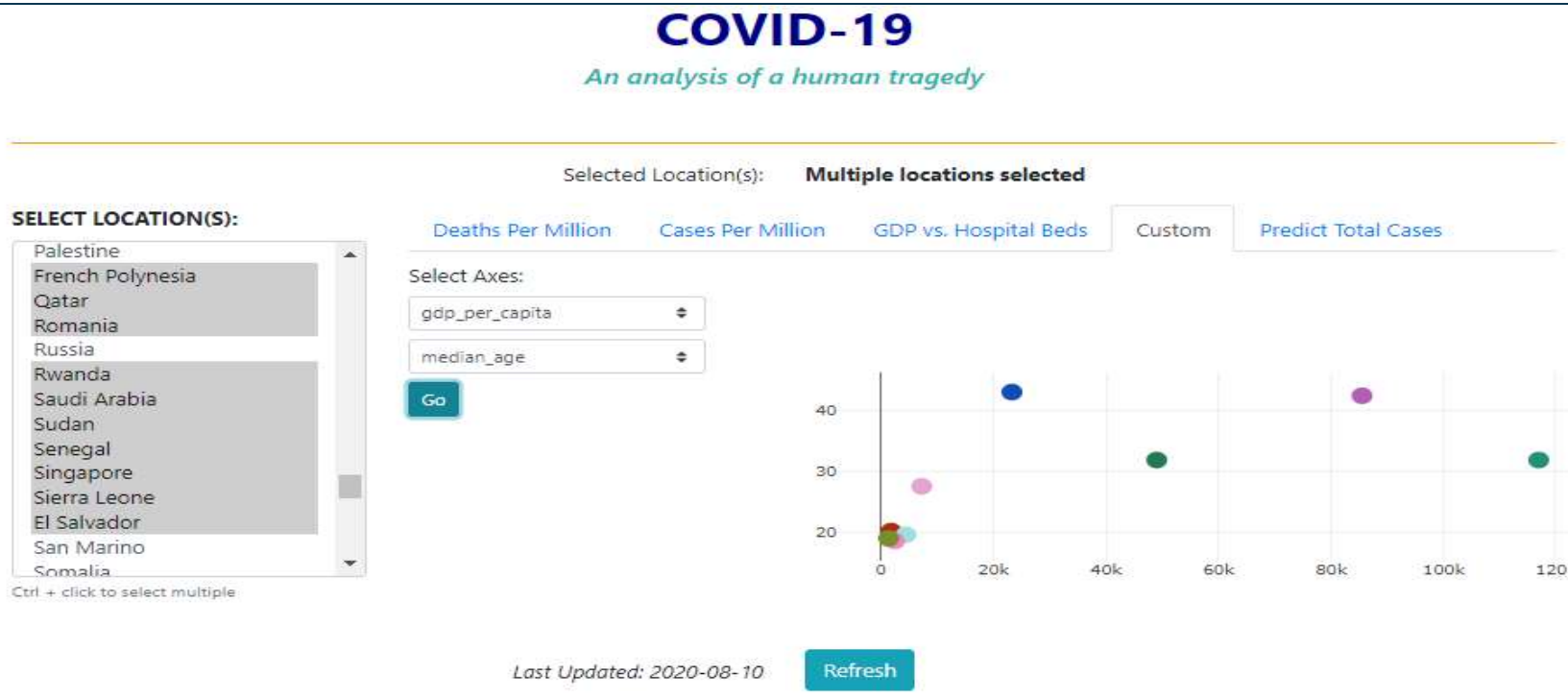
Last Updated: 2020-08-10

Refresh

GDP vs. Hospital Beds



Custom axes selected from list



Predicting cases using machine learning

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?