



COVID-19 Predictor Using Linear Regression

Abstract

Overview

COVID-19 declared as a global pandemic by WHO, has emerged as the most aggressive disease, impacting more than 90% countries of the world. The virus started from a single human being in China, is now increasing globally at a rate of 3% to 5% daily and has become a never ending process. Some studies even predict that the virus will stay with us forever. India being the second most populous country of the world, is also not saved, and the virus is spreading as a community level transmitter. Therefore, it becomes really important to analyse the possible impact of COVID-19 in India and forecast how it will behave in the days to come. Thus a lot of prediction models are coming up amidst this pandemic. This is our attempt at making a model with simple linear regression without considering other complex parameters(Epidemiology, Socio-Cultural parameters). These predictions might be helpful for the time series projection of COVID-19 across the world.

How it works:

- Total number of cases (per day) are first normalized by the country 's population.
- Training data is created by extracting the dataset.
- An SVM linear regressor is trained using the data of the previous tep.
- SVM is used to predict (normalized) new cases for tomorrow and the next day (denormalization also needs to be applied so that the final outcome is in a number of new cases).
- Predictions are shown in the terminal. The two plots show (a) total cases and deaths (and normalized) (b) new cases and predicted values (simulated results using cross validation).

Technologies Used:

- 1) For the Prediction Model
 1. Scikit Learn as ML Framework.
 2. Numpy and Pandas for Data Analytics.
 3. Tensorflow for deep-learning which is incompatible with scikit module.
- 2) For Web Development
 1. HTML
 2. CSS
 3. JS
 4. BOOTSTRAP 4
 5. MATERIALIZE(CSS)
- 3) DEPLOYMENT
 1. GITHUB

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