Heading

Abstract

Introduction (1 page)

Related Works (1 page)

Ganyani Tapiwa et. al. estimated the generation interval of the Covid-19 disease based on symptom onset data. Their study, conducted on the data of Tianjin, China and Singapore found out that the incubation period of Covid-19 has a mean value of 5.2 days and standard deviation of 2.8 days. The pre-symptomatic transmission from one host to another was found to be 48% for Singapore and 62% for Tianjin, China.

In another study, Wei Xia et. al. described how the long incubation period of Covid-19 may lead to a nightmarish quarantine loophole. They collected data of 124 confirmed cases from Wuhan, China and analyzed their demography, exposure history, and symptom onset data. Their study finds that, the mean incubation period is 4.9 days with 73% of the second generation patients getting infected before the symptoms were present in the first generation cases.

*These works show the reason of Covid-19 being so infectious comparative of other diseases. From these works we can safely assume that, the spread of the infection at some particular day will depend on the number of infections 3 to 7 days back.*

Xia Jiang et. Al. developed a dynamic transmission model of COVID-19 by dividing the population into six chambers – un-infected, infected without symptom, infected and highly infectious but not quarantined, diagnosed and quarantined, potential victims, and cured. They tested the model with the actual data of COVID-19 infection in Hubei province, China. The work was done at the beginning of the epidemic and could utilize only a limited amount of data as such. However, at the early stage of an epidemic, when less than enough data is available, such models can be useful for short term prediction and intervention planning.

Experimental Procedure

Datasets (1 page)

For this study, we used the time series data of COVID-19 infection made available by the John Hopkins University Center for Systems Science and Engineering (JHU CSSE) on GitHub. The dataset contains day wise cumulative number of confirmed cases, recovered cases and casualty for different countries and regions (or states). The dataset is updated daily from World Health Organization, European Center for Disease Prevention and Control (ECDC), US CDC, and other government sources of the corresponding countries.

Apple Mobility Report

Algorithms (2 pages)

Experimental Result (3 pages)

Conclusion & Future Scope (1 page)

References (0.5 page)

1. <https://github.com/CSSEGISandData/COVID-19>