[Research Paper]

COVID-19 Data Statistics and Forecasting

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This work is to contribute to the community by sharing the visual chart of COVID-19. We gather the data set from Johns Hopkins University CSSE in real-time - one day after. It is time-sensitive information so that we adopt a tool, **Tableau**, to build it quickly, with which the charts can be available to the public from the tableau's web site as well.

We have developed various views and insights using other approaches with Big Data (Hadoop, Spark), Elastic, and Graph database. However, it needs more resources and time to implement and share the result in public.

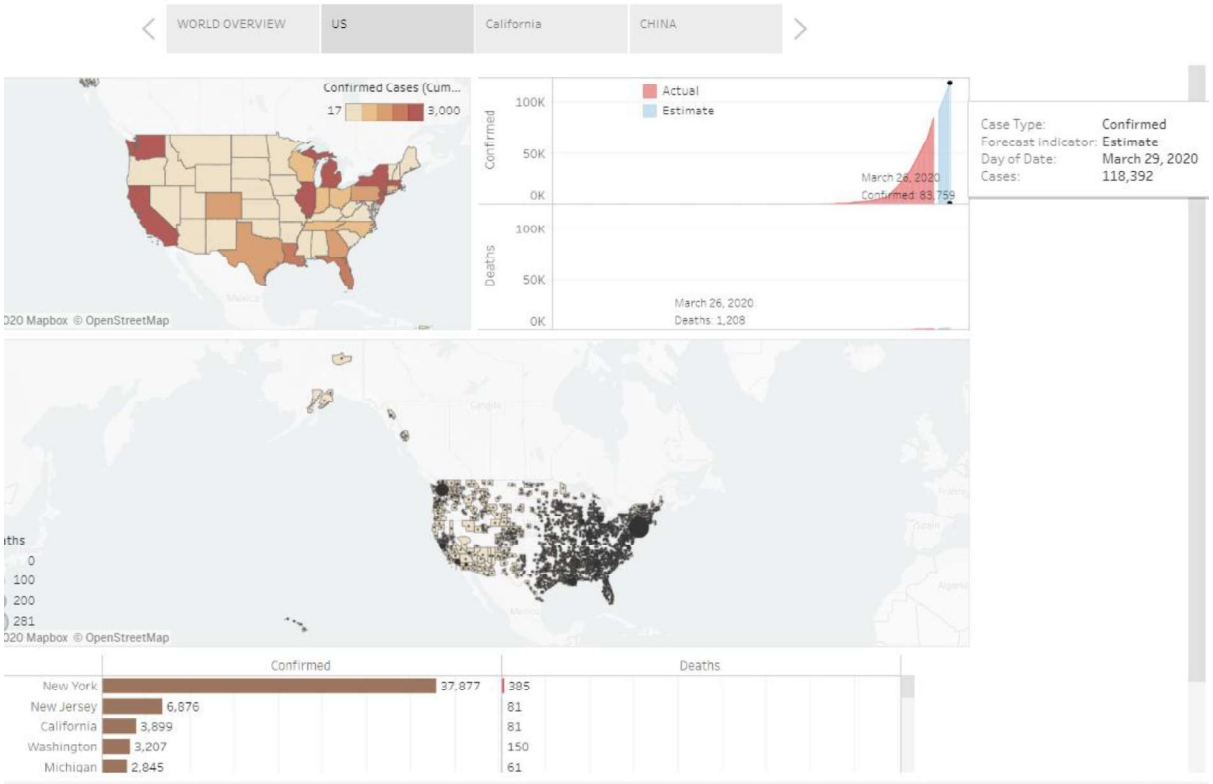


Figure 1. http://www.calstatela.edu/centers/hipic/covid-19-us-ca-confirmed-prediction
by Dalya Manatova

Figure 1 shows what we provide to the public, which hopes to deliver valuable insights to the government official and people, who want to know when "the confirmed" will become the flat curve and what the current situation is based upon tempo-spatial information.

Figure 1 is composed of four sections such as the World, US, California, and China, which should be interesting to the public, especially on the west coast. Each section shows the current date's number of "the confirmed' and "the deaths"

Using the machine learning algorithm in Tableau, the three days' predicted number of "the confirmed" and "the deaths" are listed as Estimate values. The forecasting of "the confirmed" has about a 4% difference with the US data set and about a 9 % difference with the CA data set.

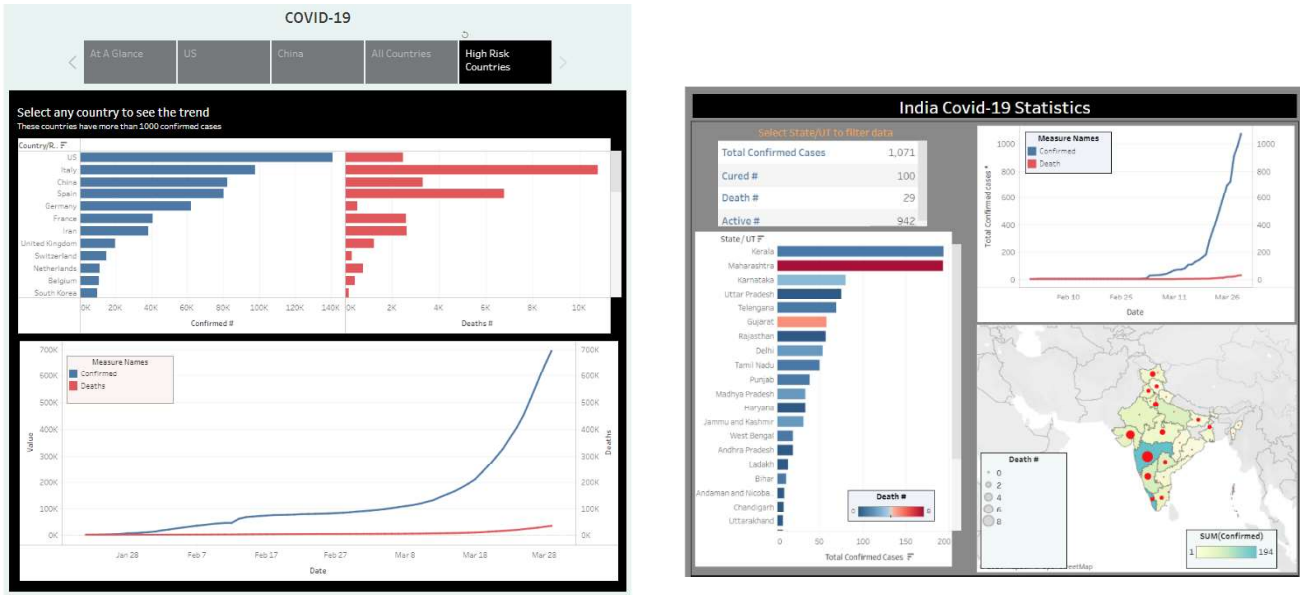


Figure 2. (a) COVID-19: World (b) COVID-19: India
http://www.calstatela.edu/centers/hipic/covid-19-0 by Monika Mishra

Figure 2 shows the statistics of COVID-19 in the World and India. High-Risk Countries of **Figure 2** (a) shows the list of countries with the number of "the confirmed" and "the deaths" respectively in the descending order. **Figure 2** (b) provides detailed statistics of each province in India.

References

[1] CAL STATE LA Big Data AI Center homepage at http://www.calstatela.edu/centers/hipic.