# Representation of SARS With Tableau

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*Abstract- SARS corona virus is severe epidemic that an outbreak in 2003.It is an enveloped single-stranded positive-sense RNA virus which by binding to the angiotensin-converting enzyme 2 (ACE2) receptor enters its host cell. It's a member of Beta corona virus and subgenus Sarbe corona virus.This paper is about the world map representation of the SARS corona virus affected area. A set of data is taken from the kaggle and it has been worked using the software. It helps in the representation of the data in the understandable way. The representations involve multiple types of graphs, where each graph has each specification to do. The representation of SARS corona virus can be done using tableau 2020.1 software. The process of representing the data is nothing but Data Visualization. Here the graphs represent the density of the affected area.*

*Keywords- SARS corona virus, graphs, tableau 2020.1,*

## I. INTRODUCTION

SARS corona virus (Severe Acute Respiratory Syndrome) is a viral disease, which was identified in 2003. It is an animal virus, perhaps bats, spread to other animals. It was, first infected to a person of southern China in 2002.This epidemic has affected nearly 26 countries and resulted in more than 8000 cases. There are two strains of this virus which cause this respiratory disease. Extreme acute respiratory syndrome corona virus (SARS-CoV or SARS-CoV-1), which triggered the 2002-2004 epidemic of serious acute respiratory syndrome (SARS), and severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), which caused the 2019-20 corona virus disease pandemic (COVID-19).There are many other strains of SARS-CoV, all of which are only known to infect animal species: bats are a significant acceptor of the numerous strains of SARS related CoV, and a number of other strains are being discovered in palm civets, which is like the ancestors of SARS-CoV.

An shell, positive-sense ,uni-stranded RNA virus is a SARS-related corona virus. Its genome is about 30 kb, one of the largest of all RNA viruses. The virus has 14 open reading frames that, in some examples, overlap. A 5 methylated cap and a 3 polyadenylated tail are found in the genome. Within the 5'UTR there are 265 nucleotides, and within the 3'UTR there are 342 nucleotides.

Transmission is in the form of animal–to-human and human-to-human. When the virus excretion reaches its peak it causes respiratory secretions and stool. By implementing appropriate infection control methods this global outbreak came to an end. This causes symptoms like fever, where it is a common symptom for all the diseases, but it might be absent for elderly or immune suppressed patient on the initial measurement. The other symptoms include cough (dry), breathing shortness and diarrhea in the first week and/or the second week.

## II. LITERATURE REVIEW

Here [1] the paper is to detect the victims of the virus using the fingerprints, it also analysis the genome sequence with the help of Z curve of SARS receptors. The [2] work states that using the mathematical model and epidemiological data predicts the early outbreak of this virus in China and also states it's preventive measures to control the outbreak. In the paper[3] using Kohonen's self organizing map the neural network model analysis the strength of mono,di and tri nucleotide compositions since each genomes has its own composition. The paper [4] isusing the multiple bioinformatics tools to analysis the workflow of SARS, to identify its similarity with human protein. Here [5] the analysis, project prioritization, risk management of the data by using tableau is stated. The risk management analysis is completely done in tableau [6].

## III. METHODOLOGY

Tableau is the most efficient, stable, secure and versatile top to bottom analytics platform for your results, from all the connections link to collaboration. Elevate persons with information services. Crafted for the person; scaled for the corporation. Tableau is the business-intelligent tool that turns the knowledge into action-driven insights. There are moves involved:

Steps involved are:

- Preparing the data for analysis with Prep.
- Using of powerful drag-and-drop analytics .
- Sharing of data and collaborate with Server or Online.
- Watching of data-driven decisions spread.

Types in tableau:

a) Tableau Prep is a personal data preparation tool that is how you get the details ready for review. Empowers more individuals to integrate, shape, and clean their data easily and confidently.

b) Tableau Desktop is "the gold standard" in visual analytics. Which is straightforward to use interface, it changed the business intelligence industry.

c) Tableau Online is to self-service analytics within the cloud. No one is there to manage a server. It is secure andscalable. And there is no hardware to maintain!

d) Tableau Server is the company's real enterprise-scale analytics; it's now convenient for people to exchange and handle knowledge and insights on premises or in the public cloud.

## IV. RESULT AND DISCUSSION

The provided dataset consists of the cumulative number of records, deaths, and recovered cases and the countries which faced the epidemic. The dataset is taken from kaggle repository, which is issued recently. This helps in the analysis of data provided and gives us the representation of the respective countries in the graphical format.

**A) Sheet representation:**



FIG 1: Cumulative number of cases

Here in FIG -1 it states that we bring the cumulative study of countries with respect to the cumulative number of cases, where it ranges from dark brown to light color in the decreasing order. The dark brown indicates the highest number of cases, where China stands first. This is a world map representation.



FIG 2: Number of records

In FIG-2 and FIG-3 it is a study of countries vs. number of records. In FIG-2 it is a tree map representation, where it ranges from dark blue to light blue in the decreasing order. Canada, China, Germany, Singapore, Thailand, UK, Vietnam, Switzerland, US, Italy, Ireland, France and Rumania stands as the highest number of records in the world.
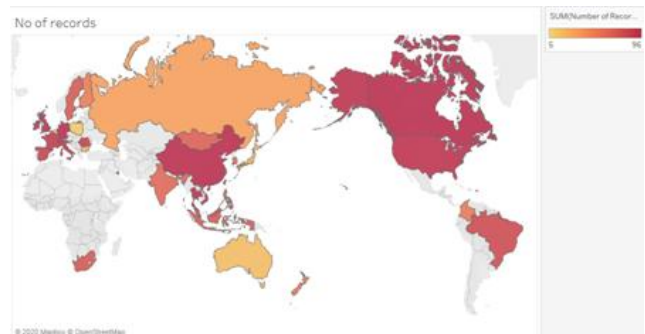


FIG 3: Number of records

FIG-3 is also as same as FIG-2 but in a different type of representation i.e., in world map form. It ranges from dark pinkish color to light color in the decreasing order.



FIG 4: Number of Deaths

In FIG-4,it is a representation of countries vs. number of death with the use of world map.The number of death due to this epidemic is greater in China.



FIG 5: Number of recovered

In FIG-5, it is represented between the countries and number of recovered. It ranges from green to orange in the descending order, where China stands first.

**B) Dashboard representation:**

The dashboard representation is nothing but the interaction between the two or more graphs. Here it is the representation of world map and tree map between the countries, and their number of deaths and records. Where in FIG:6,FIG:7 and FIG:8 it is shown that if a country is chosen from the world map then that country will be highlighted in the provided space of tree map, with their count.
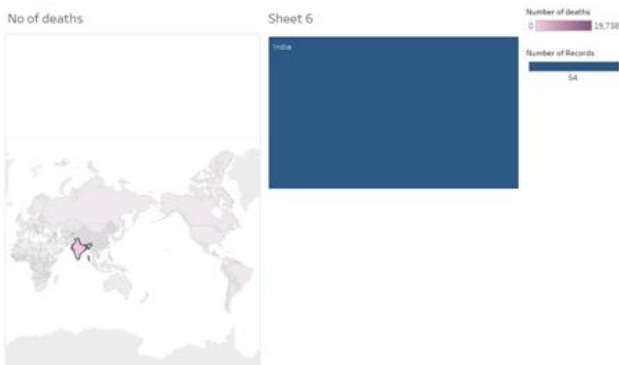


FIG 6: India

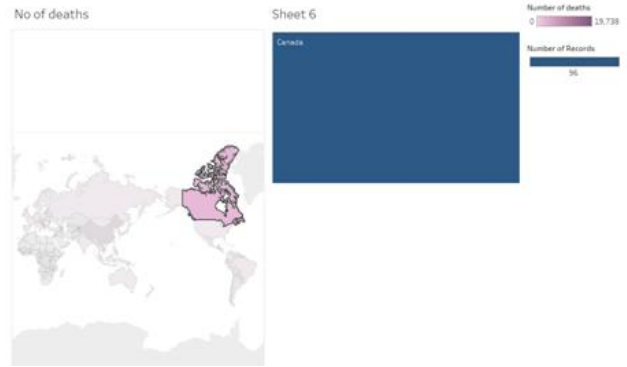In FIG-6 it is shown that India is about 64 on record



FIG 7: Canada

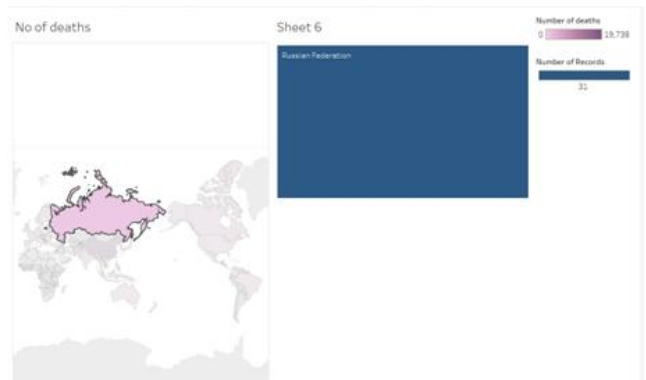In FIG-7 here it shows that Canada has about 96 as record.



FIG 8: Russia

In FIG: 8 Russia is choosing from the world map and the no: of recovered is been highlighted as 32.

### V. CONCLUSION

SARS may be a new fatal communicable disease with the power to spread from people to people and from a place to other place via national or international travelling. Despite the worldwide more accelerated dissemination of this epidemic, conventional public health strategies have been planned to contain and control this epidemic. Since SARS-CoV triggers a non-specific clinical condition, quick precise testing will enable the diagnosis and management of this disease in the future. There is an immediate need to improve clinical trial approaches that test SARS treatment regimens, as well as other novel diseases, especially in epidemic circumstances. Therefore, we come to the conclusion that these are the following graphical representation of the SARS-CoV with the use of latest version of Tableau.

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