Prediction of COVID-19 cases in India

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1. Introduction

1.1. Background

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in December 2019 in Wuhan, China, and has since spread globally, resulting in an ongoing pandemic. As of 17 May 2020, more than 4.71 million cases have been reported across 188 countries and territories, resulting in more than 315,000 deaths. More than 1.73 million people have recovered.

Common symptoms include fever, cough, fatigue, shortness of breath, and loss of smell and taste.[6][7][13] While the majority of cases result in mild symptoms, some progress to acute respiratory distress syndrome (ARDS) likely precipitated by cytokine storm,[14] multi-organ failure, septic shock, and blood clots. The time from exposure to onset of symptoms is typically around five days but may range from two to fourteen day.

In India total cases of COVID-19 are 81,970.Prediction of cases Is important to visualize the current condition of India under COVID-19 and which are the places are that most effected and In which the conditions can worsen as well as can be fine in time being.

1.2. Problem

Data that might contribute to determine the status of COVID-19 cases includes age group details, hospital beds in India, ICMRT testing details, ICMRT testing labs, individual details, state wise testing details and population census of India. This data will describe which place have high number of patients in India.

1.3. Interest

The people will be interested to know the conditions in their states and cities and company who want to reopen their organisations can have a look at their location that If the condition Is stabled there or not.

2. Data

The data that is used for this predictions are the age group details which differentiate the patients on the basis of their ages. The age groups are divided from 0-9 and so on. The percentage are shown according to the age group and total number of cases are shown.

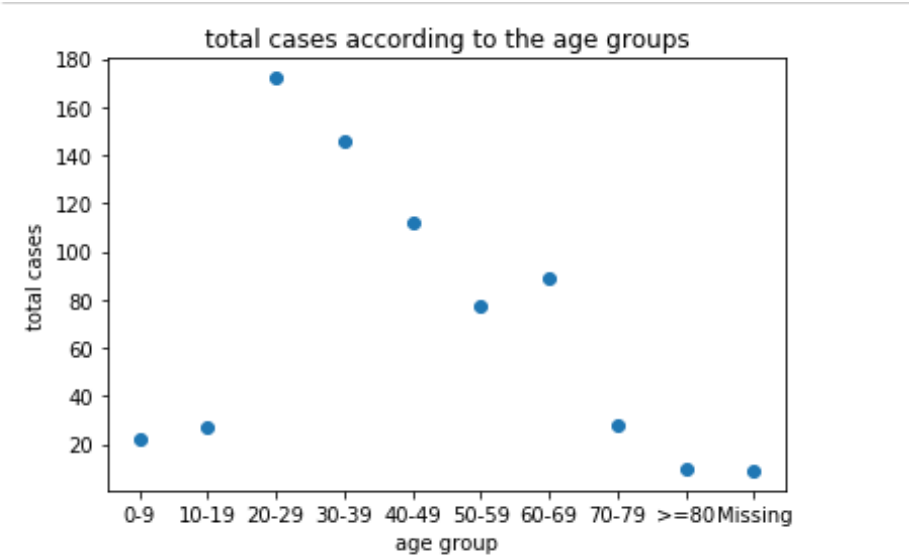
The another data set is of the states which display the how many patients have been found in a particular state and in which time .The confirmed cases, number of deaths ,cured patients are there is the dataset.

Hospitals beds in India is a dataset having number of total hospital beds in each city and in rural as well as urban areas of the particular city.

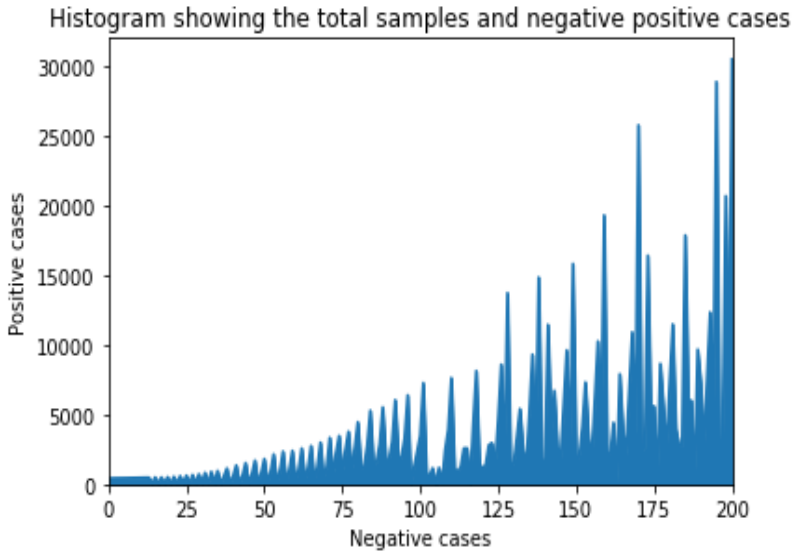
ICMRT testing details dataset shows the total number of positive cases and total number of samples.
Individual details dataset contains the information of the individual age and their travel history, where they are detected , where they live, and where they have travelled from.
Population dataset contains information of the state and their urban and rural population, the area they have and the gender ratio.

3. Exploratory data analysis

Scatter plot showing the total cases that occurred in the particular age group.



In further analysis there are total number of samples and from those there are total negative as well as total positive cases.It is shown in the histrogram below.



All the individuals have been tested from every state and there are negative as well as positive cases for that.The scatter plot below described the total individuals tested positive.