

National University Of Computer & Emerging Sciences Karachi Campus



Project Report

Data Structures

Section E

Group Members:

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“Covid-19 Travel Guider”

- **INTRODUCTION**

The system that will be designed will enable the travelers around the globe to be able to take guide from the system and get to know about the countries that are safe to travel with respect to purposes (business, vacations). This system is unique in a sense that it will be the first that will directly help the travelers around the globe.

- **PROBLEM STATEMENT**

In today's world when the world is being surrounded by the fear of Covid 19 and there are people who want to go out for their respective purposes wants to know about the countries that are available as per their choice and purpose. Many people are struggling to find the right place according to the trends and statistics available and are unable to interpret and find the required destination.

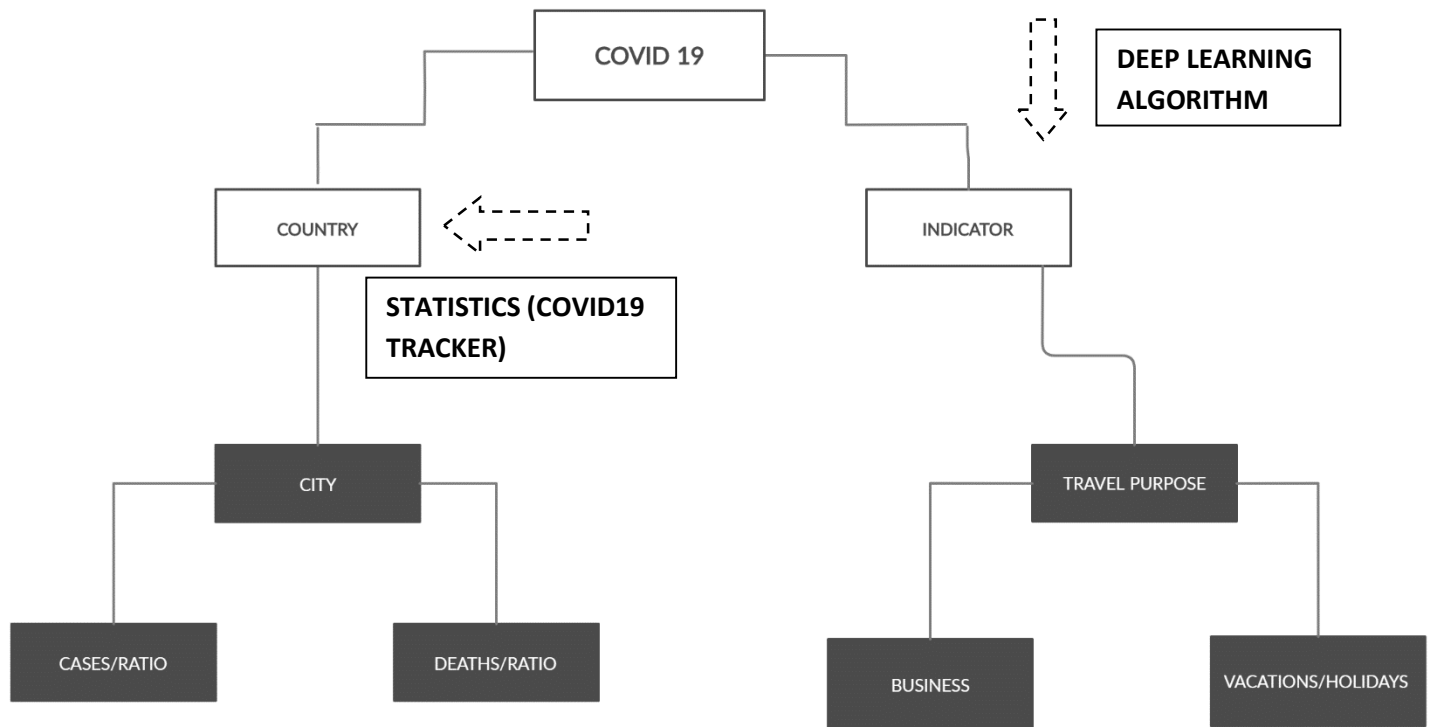
- **SALIENT FEATURES**

1. Covid 19 Statistics
 - Cases and Deaths (by Country)
 - Testing and Ratio
2. Travel Guideline Basis of Country
 - Deep learning algorithms to indicate travel guidelines.
3. Purpose Based Indicator
 - If travelling necessary, indicator will propose the reasons for travel.
4. Covid-19 Checker
 - Check through symptoms whether a person have covid19.

- **TOOLS AND TECHNOLOGIES**

- Programming Language: C++.
- IDE: Microsoft Visual Studio Code, Dev C++.
- Compiler: MinGW for C++.

- **HIERARICAL STRUCTURE**



This hierarchical structure shows the general purpose of our system

- **SYSTEM AND DEEP LEARNING**

The system we will be designing is directly linked to a **deep learning process**. System fetch the **datasets** available for the Covid 19 across the globe and upon the basis of main algorithms of deep Learning that are:

i) **Naïve Bayes Algorithm.**

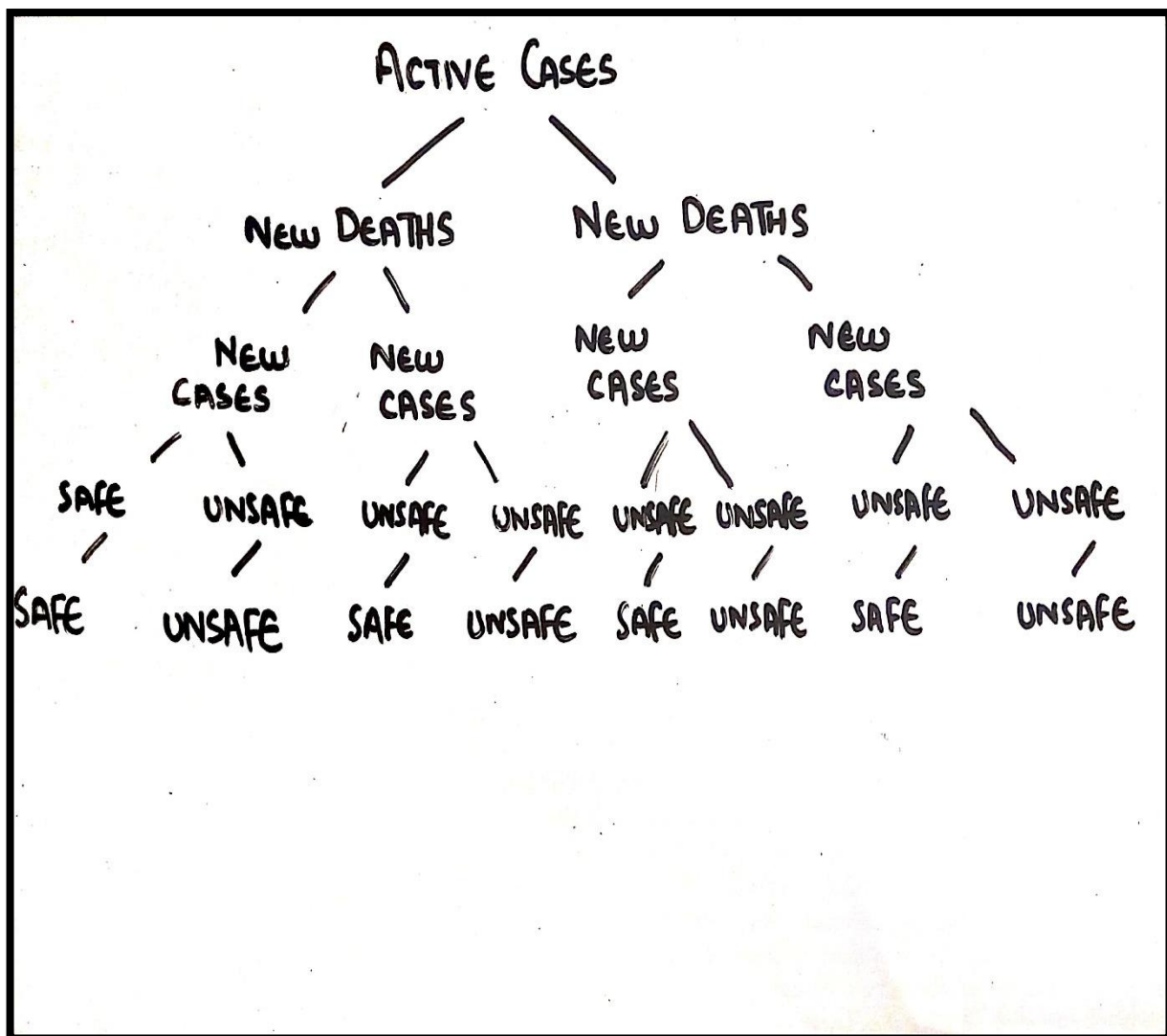
ii) **Decision Trees.**

We are able to generate a possible outcome accurately for the travel indication of the countries upon safety and covid19 checker with the help of symptoms.

- **SYSTEM DESIGNED**

The system we have designed is able to indicate travel countries which will be able to visit during this pandemic. It tells overall statistics of the countries with each and every detail and is able identify locations for business and travel needs. Further we have introduce a new feature that predicts with symptoms either he/she have the Covid19 or not by predicting through probabilities using one of the useful Naïve Bayes Algorithm. For the Travel indication we have used Decision Trees which will be able to accurately predict the possible countries.

- DECISION TREE (MODEL)



- Working Model Snapshots

```

*****
*****
*****
****                                     ****
****                                     ****
****      Time: 16:34                      Date: 19/1/2021      ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****      "WELCOME TO COVID-19 PORTAL"      ****
****                                     ****
****      PRESS ANY KEY TO CONTINUE (E TO EXIT)...      ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****                                     ****
****      By:                                     ****
****      1)Muhammad Ibad Saleem (19K-0220)      ****
****      2)Syed Ahsan Akhtar Naqvi (19K-1475)      ****
****      3)Muhammad Mustafa Bawany (19K-1273)      ****
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Home Screen

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*****COVID 19 PORTAL MENU*****
=====
1)Search World Wide Statistics
2)Search Stats By Country
3)Search Stats By Largest Number Of Cases
4)Search Stats By Largest Number Of Deaths
5)Travel Indicator
6)Check If You Have Covid19 Symptoms
7)Safety Precautions
8)Show Decision Tree
0)Exit
=====
Choose Option:

```

Menu Screen

```
Enter Number Of Symptoms: 3
Choose Symptoms From The List Below
=====
1)Fever(F)
2)Cough(C)
3)Tiredness(T)
4)Shortness Of Breath (S)

Press Letter Indicated in Bracket For Option 1: F
Press Letter Indicated in Bracket For Option 2: C
Press Letter Indicated in Bracket For Option 3: S

=====
16.45% chance Of Covid 19. Very Less Chance Of Covid.No Need To Worry :)
=====
```

Covid-19
Checker

```
Enter Country to Search For: USA

Country: USA
Total Cases: 123
New Cases: 66591
Total Deaths: 286288
Active Cases: 5875262
Total Recovered: 8677576
Critical Cases: 26160
Population: 331833330
Total Tests: 204293263
Total Cases Per Million: 4.472e+004
Death Per Million: 863
Tests Per Million: 6.156e+005
```

Country Wise
Search

COVID-19 TRANSMISSION AND PROTECTIVE MEASURE

COVID-19 spreads primarily from person to person. Fighting this disease is our joint responsibility.

Protect yourself and others by making these 6 simple precautions your new habits:

- 1.Clean your hands often
- 2.Cough or sneeze in your bent elbow - not your hands!
- 3.Avoid touching your eyes, nose and mouth
- 4.Limit social gatherings and time spent in crowded places
- 5.Avoid close contact with someone who is sick
- 6.Clean and disinfect frequently touched objects and surfaces

Precautions For
being safe from
Covid19