COVID-19 USING COGNOS

SYSTEM REQUIREMENTS

1.General Description

Data Analytics on Covid-19, as the name suggests is a data analytics on the data such as the people infected,what their age is ,what are the sources that they have been infected from, history of any previous chronic diseases etc. and we wish to obtain almost all the meaningful insights that we can get using various data science and machine learning techniques and by looking at those insights we can arrive at or basically predict the future trends or other crucial information. It requires active internet connection because the project uses various Machine Learning models depending on how we want to train our data.The various tools and library that we intend to use are with the intention that using them we can get the "best of the waste" and provide some services to the society.Hence we look forward to achieve what we have intended and hope the analysis turns out to be a success.

2.HARDWARE REQUIREMENTS

1. High Resolution Camera
2. RAM: 4 GB
3. Processor: Intel i5 or Higher
4. 2 GB Graphics Card

3.SOFTWARE REQUIREMENTS

1.Windows 7 or Higher

2.Text Editor

3.Python 3.9.0

4.Open CV

5.Jupyter Notebook

3.1 Non-functional and functional requirements System functional requirement defines the operations and services to be provided by the system

1. Using **Jupyter Notebook**,the csv file is manipulated for getting meaningful insights.
2. **OpenRefine** for data scrubbing.
3. **Numpy,Pandas,Matplotlib** for data exploration,inspection and visualisation.

4. For modeling the data we need a decent knowledge of the **Scikit** library of Python.

5. Training the dataset

6. **Matplotlib,ggplot,Seaborn,Tableau** or d3js for interpreting the data..

Non-functional Any features or qualities of the system capable of evaluating its operation are the requirements. They are clarified by the following points:

1. **RELIABILITY**:- The insights that we are aiming to obtain should be highly reliable with minimum faults or miscalculations.Every parameter of the dataset is mentioned and observed properly and the insights that we arrive at, are cross checked from practical/previous observations.
2. **SCALABILITY**:- Since new records are added to our dataset on a daily basis our model should be scalable to adopt the dynamic nature of our dataset.
3. **SECURITY**:- Our project is mainly dependent on the covid19 database from an open source data repository ,there is a high chance of data loss due to hackers or attackers.So our system should be secured by using anti-malware software,regular backup etc.
4. **MAINTAINABILITY**:- The system requires good maintainability from our side due to the dynamic nature of the dataset.Since there might be days when there is a sudden surge in the number of daily cases abruptly and we need to be ready for such data too.

3.2 USER REQUIREMENTS

1. The data analysis system shall input and accurately compare the given parameters with the previously stored data.
2. Upon comparing the new input parameters the probability of having covid or not is displayed as a percentage.
3. A front-end interface for taking the symptoms parameters from the patients is present.
4. The user’s parameters are compared against the test cases on which the model has been trained.
5. The user shall keep his/her devices connected to our database.