

**COVID-19 Screening Mobile Application**

**BY**

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This Report Presented in Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science in Computer Science and Engineering

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**DHAKA, BANGLADESH**

**DECEMBER 2021**

## **APPROVAL**

This Project titled “COVID-19 Positive or Negative prediction”, submitted by Md.Alamin Sakil to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 05 January 22.

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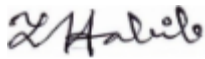
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## DECLARATION

We hereby declare that, this project has been done by us under the supervision of Ahmed Al Marouf, Lecturer, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

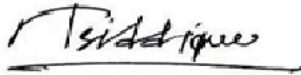
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## **ACKNOWLEDGEMENT**

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project successfully.

We really grateful and wish our profound our indebtedness to Supervisor Ahmed Al Marouf, Lecturer, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of development to carry out this project. His endless patience ,scholarly guidance ,continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to -----, -----, and Head, Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

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## **ABSTRACT**

Nowdays Covid-19 is standing big issues for us. Already lots of people are affected in covid-19 and lots of people are died. Many people do not know the symptoms of Covid-19 .For this I have made a covid-19 app Where app predictions you are positive or negative in Covid-19 .The app has a lot of questions and if someone fills in all the questions.He /She will show what percentage Covid-19 so postive or negative .Here you will be asked questions like do you have a fever? Do you a cough ? Do you have a sneeze?Do you have shortness of breath ? Etc. I thing a lot of people of people would benefit from this app. Anyone can use the app from the comfort of their home. It is very easy to know how many people are affected by Kobid disease in their own country through this app. If it is positive, you will immediately get the guideline of what to do. If anyone wants to know more about Covid, here are some answers to this question.

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# Chapter 1

## General information

### 1.1 Introduction:

Covid-19 has become a huge problem in our lives now due to which the lives of all of us are at a loss even many people have lost their jobs. I have created an app on Covid-19 to see if Covid-19 is positive or negative and how likely it is to be Covid. The probability of covid which will show in percentage form. It also shows how many people around the world have been infected with Covid-19 and how many have been infected in any country. It will also show how many people have been vaccinated, how many have died, some news of Covid-19 can also be seen. After determining the country in which you live, the map will show how many people have been infected, how many have recovered, and how many have died in Covid-19 in that country

### 1.2 Objective:

- To create Determining whether corona is negative or positive for covid-19 patients.
- Find out how many people are infected with Covid-19 in some countries.
- Get an idea of the rate at which corona is increasing or decreasing.
- People will be able to know the details about Corona.
- What to do if the corona is positive

### 1.3 Motivation:

Corona is a contagious disease for this reason many people do not want to go to the hospital for fear of becoming corona. Many people are unable to get out of the house due to illness or even go to the hospital to get the Covid-19 part examined, this app will be of great help to them

#### **1.4 Expected Outcome**

If you use this app, you will not find the news for covid every day or how many people are infected, this app one of the updated news of covid-19. People will get to know more information in covid-19 and be more awareness of people.

## **Chapter 2**

### **Project Model and Spacifaication**

#### **2.1 Introduction**

In this section , we are trying to elaborate poposed model with important chart and description. What type of model should we choose to fully describe our idea and how it will be user friendly a proposed model should be risen when a model is chosen then it will require some features to work on?

#### **2.2 Application Features**

-

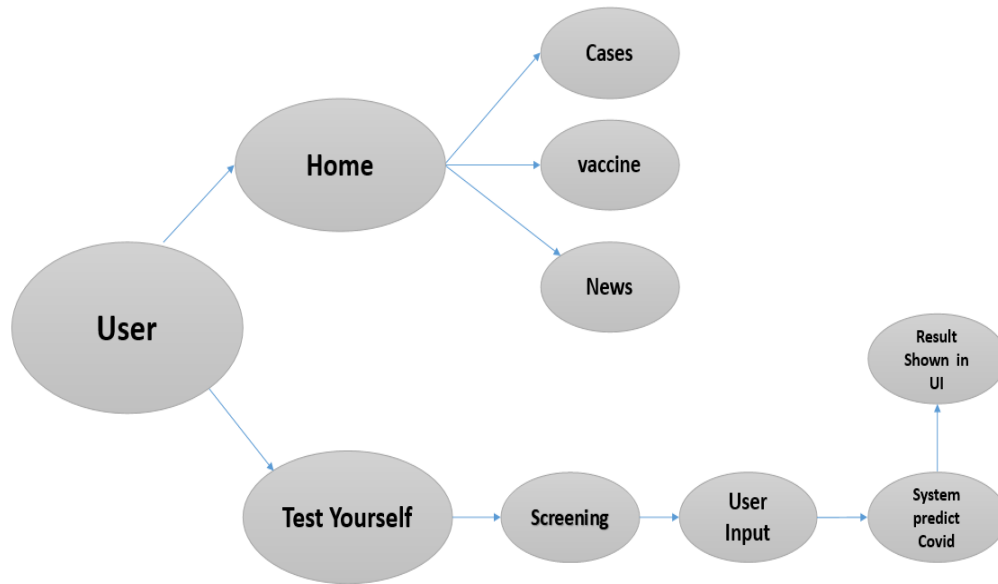


Figure 2.2: Application features

## 2.3 Requirements & Specifications

Requirements & Specifications are important for a project as it contains what are necessary to build it. Requirements and Specification may change for a certain time as the project building on as it's demand.

### 2.3.1 Hardware Requirements

To build the project We need Hardware components such as:

- Personal Computer (Desktop/Laptop)
- Internet Connection
- Android Phone

### 2.3.2 Technical Requirement

To make the application we used different type of language and frameworks to mat it more it more user frindly .

Kotlin, Phython, MVVM, tranferflow, Retrofit, Google Map SDK.

#### 2.3.2.1 Kotlin

Kotlin is attach with java . Kotlin make the code safe , less code and good readability dead to few errors. It is very easy to learn . Infact java lover learn very easily. Infuture Kotlin is Powerfull and ease to use in programing language.

### **2.3.2.2 Phython**

Python is a high-level general-purpose programing language. Python is more developer friendly than other languages. It is an interpreted language. Mostly used in machine learning, web server and desktop application.

### **2.3.2.3 MVVM**

MVVM means Model , View , ViewModel. Model contains application data. Model can't speak to the View directly. View represents the UI of an irratal application. View montitors the ViewModel .ViewModel work as a link between the Model and the View .

### **2.3.2.4 Tensorflow**

Tansorflow is an open sourc AI library. Here I used transorflow for machine learning problem such as prediction. If anyone learn trasorflow then you have basic calculus, basic knowledge of algebra and statistics. Aslo have knowledge of phython programing language . Tensorflow also work as Voice searching , image recognition.

### **2.3.2.5 Google Map SDK**

The google map SDK supports both the Kotlin and java programing language. Data can be displayed on google maps using google map SDK.

### **2.3.2.6 Shared preferences**

Android provides many ways of storing data of an application one of the way is called shared preferences. shared preferences can be stored small type of data . Here Data save in an unencryped format in internal storage. There are two types of preferences on of the Activity level and other on App level.

## **Chapter 3**

### **FEATURES & DESIGNS FOR WEB APPLICATION**

#### **3.1 Introduction**

In this section we will discuss about features of our project and how the designs look like.

**3.2 User Interface Design:** User Interface also known as UI is a highly important and the most basic part when it comes to mobile application design and development. It is more often associated to the design phase but its importance development phase too. User interface is the important part of every mobile Application. The UI plan of a mobile application incorporates the look and feel of the application, this implies how application interacts with users. It for the most part accentuates on the introduction of the application. We design user friendly UI for our user in Mobile Application. We designed our website following this segment:

#### **3.2.1 Home**

In our home page you have Overview option where you can find most affected country. Large circle means more affected and small circle means less affected.



Figure 3.1: Overview

You will also see how many people are infected in which country but you have to selected this any countrys. Suptoise here I selected Bangladesh and show how many pepele are affected in counry.



Figure 3.2: Today Bangladesh Cases

### 3.2.2 Bottom sheet

Here we see discuss three Bottom sheet like Cases, Vaccines, News.

#### 3.2.2.1 Cases

The total number of people in our world is affected and if you specify a specific country then it will show how many people are affected in that country.

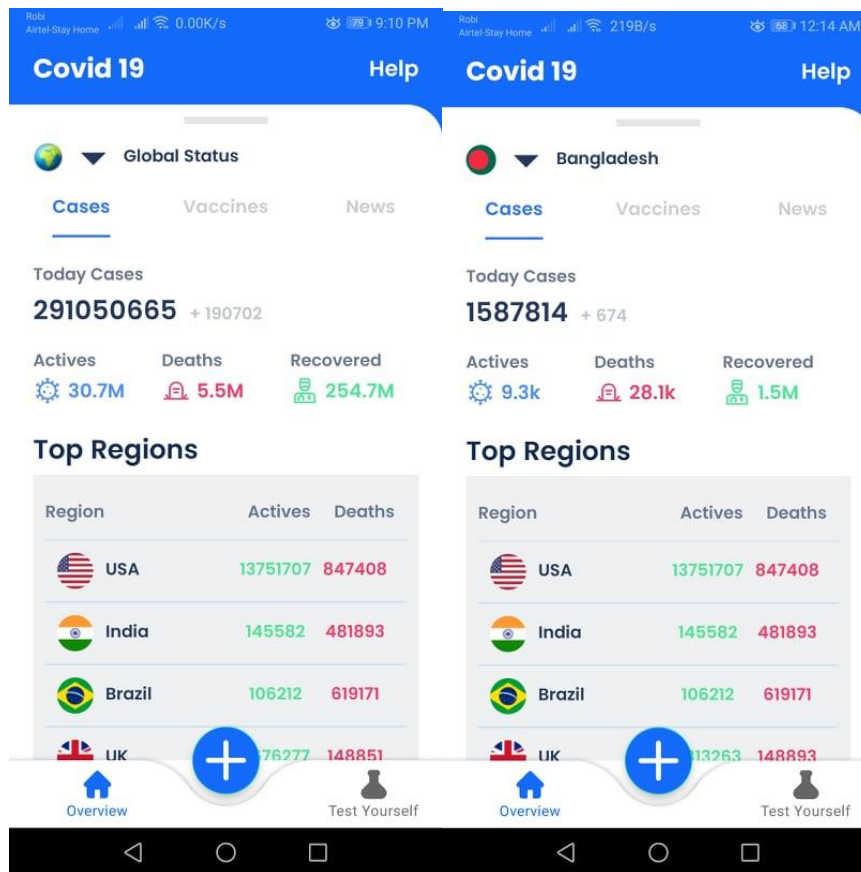


Figure 3.3: world total cases

#### 3.2.2.2 Vaccines

It will show you how many people around the world have been vaccinated. Also It will show through the dashboard .





Figure3.4: Vaccine

### 3.2.2.3 News

Covid-19 related news see and reading also.

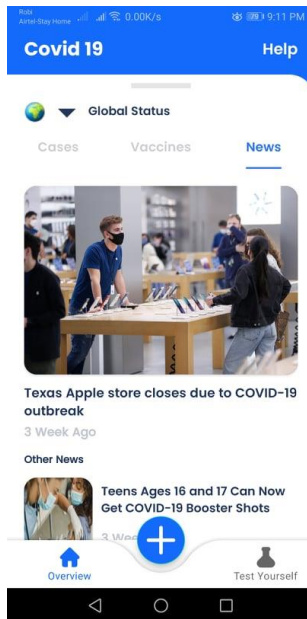


Figure3.5: News

### 3.2.3 Test Yourself

Here you gives three types of question like your age, Gender and symptoms.

#### 3.2.3.1 Start Sceming

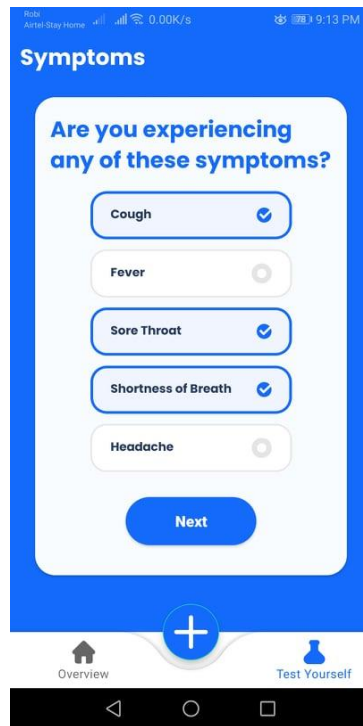
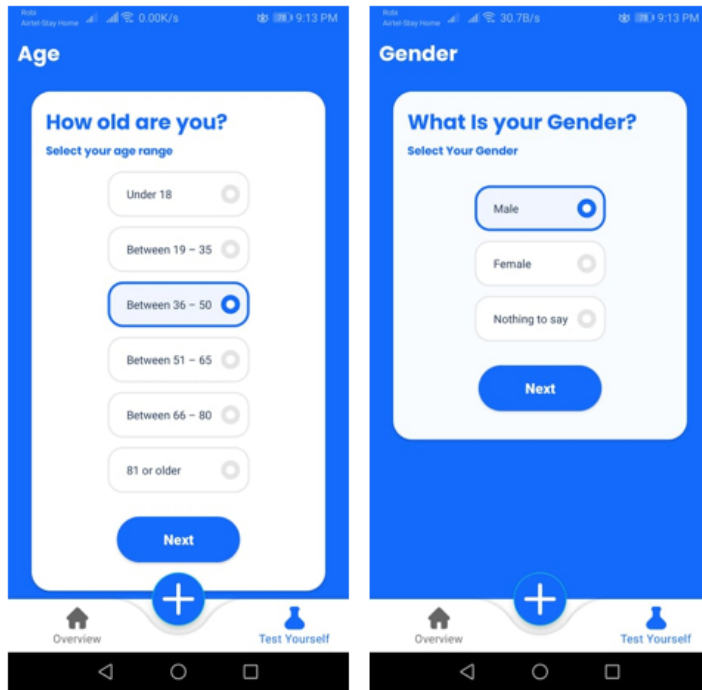


Figure 3.6: Question

### 3.2.3.2 Results positive or negative

Here show Negative 1.54% and Positive 98.46%.

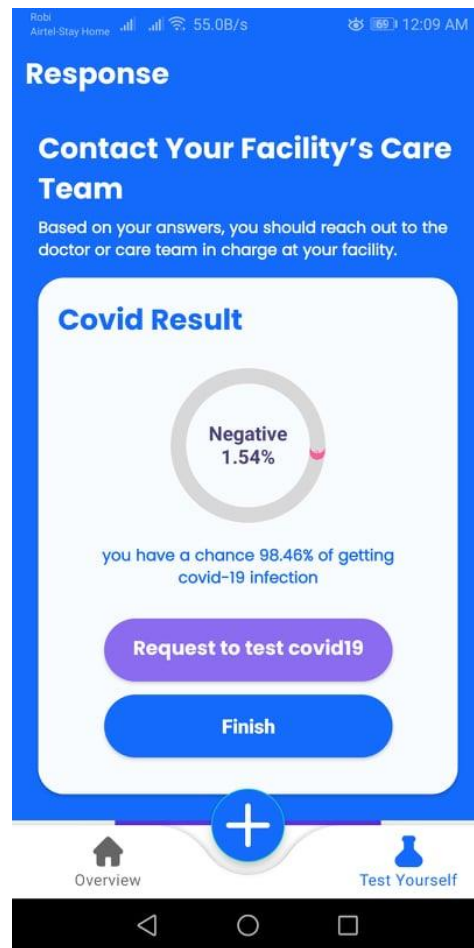


Figure 3.7: Results

### 3.2.3.3 Some Guidelines

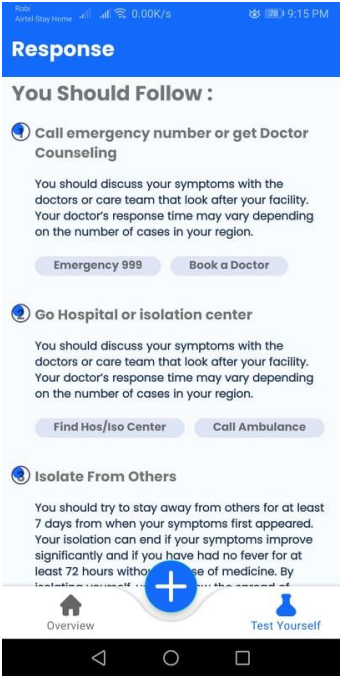


Figure 3.8: Guidelines

### 3.2.3.4 Total test and Frequently ask Question

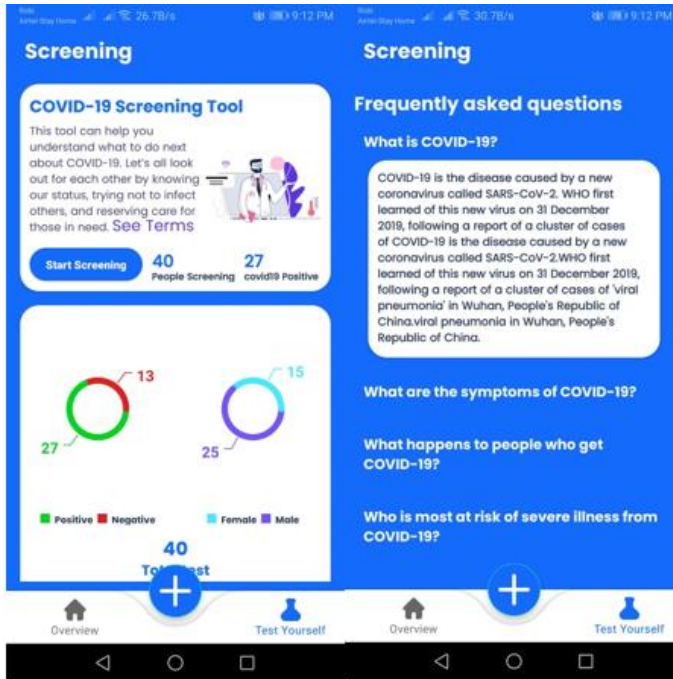


Figure 3.9: Total test and question

## Chapter 4

### Machine Learning

#### 4.1 Dataset

A Python framework for Scikit Learning machine learning. Since Python is widely used for this, there are many frameworks available for machine learning.

	cough	fever	sore_throat	shortness_of_breath	head_ache	age_60_and_above	gender	corona_result
0	0	0	0	0	0	No	male	negative
1	0	1	0	0	0	No	male	negative
2	0	0	0	0	0	Yes	female	negative
3	0	0	0	0	0	No	male	negative
4	0	1	0	0	0	No	male	negative
...	...	...	...	...	...	...	...	...
1048570	0	0	0	0	0	No	female	negative
1048571	0	0	0	0	0	No	female	negative
1048572	0	0	0	0	0	No	male	negative
1048573	0	0	0	0	0	No	female	negative
1048574	0	0	0	0	0	Yes	male	negative

#### 4.2 Method and approach

For this machine learning model we used Pandas, numpy, tensorflow, sklearn matplotlib library. In our Dataset we have 7 features and 1 level. we have total 995321 rows  $\times$  8 columns. In our dataset we have missing value so our first step is remove missing value if any fetures is null we remove the row. Then we convert string value to Int value in corona\_result, age\_60\_and\_above, gender column. Then we seperate X and Y value. For training our model we used Sequential model and Artificial neural network. In our Input layer we have 7 input in hidden layer we used 4 neuron and in

output layer we have 2 output. Then we fit our data and then convert our model to TFlite file

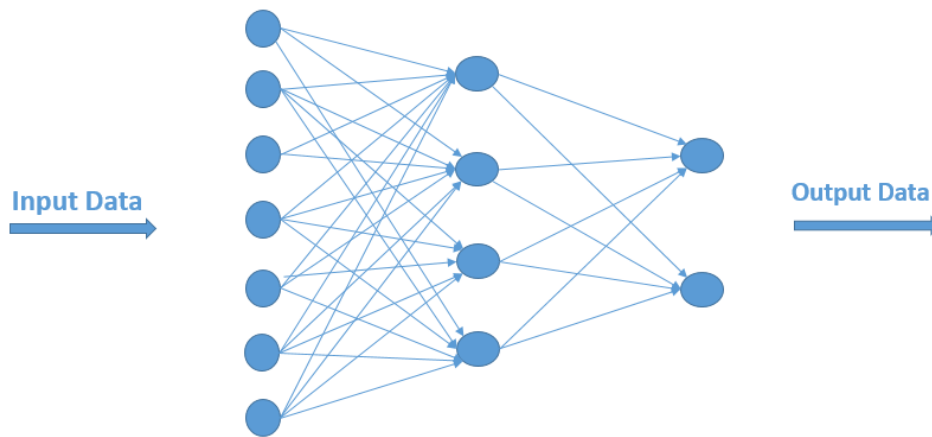
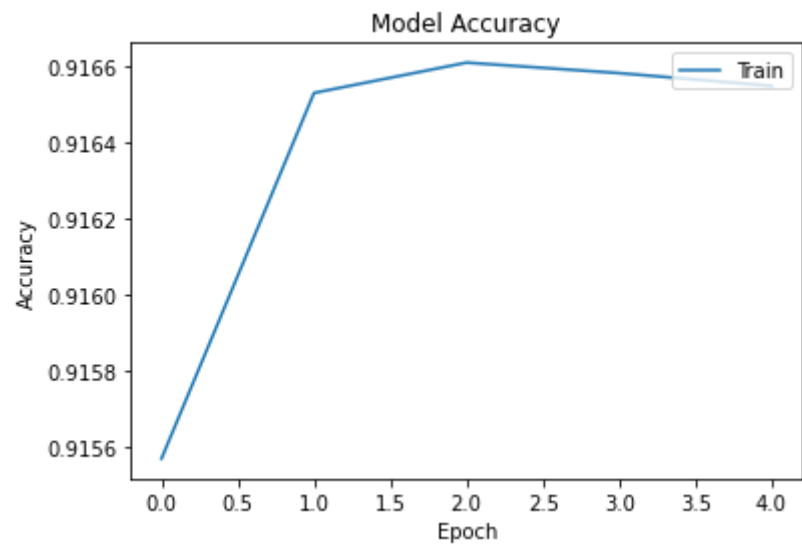
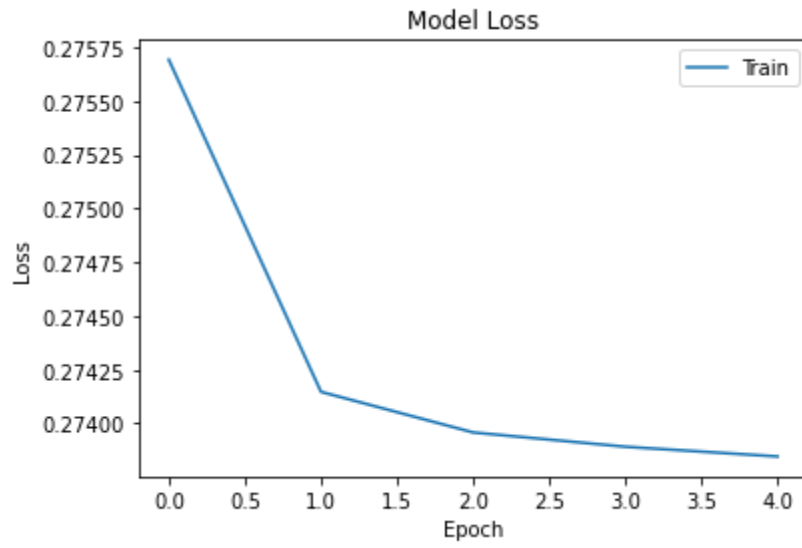


Figure 4.2: Neural network

### 4.3 Model





## **Chapter 5**

### **CONCLUSION & FUTURE SCOPE**

#### **5.1 Conclusion**

This project will help the covid patient. It will be easier for any kind of people. By using covid screening test . Some question are providing . it will be easier for a user to use the platform form anywhere and any condition. We hope this project will achieve more contributor to the Covid patiant,and improve the patiant health.

#### **5.2 Future Scope**

There are many future scopes in our project. Our project is in more development process. We may add other features so that the users may have a good user experience.I will add more question and more accurate value for covid Positive or Negative.

## **APPENDIX**

**50-55**

## **REFERENCES**

**56-57**

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