

COVID 19 TEST PREDICTION USING.NET

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Abstract

Effective screening of SARS-CoV-2 enables quick and efficient diagnosis of COVID-19 and can mitigate the burden on healthcare systems. Prediction models that combine several features to estimate the risk of infection have been developed. These aim to assist medical staff worldwide in triaging patients, especially in the context of limited healthcare resources. We established a machine-learning approach that trained on records from 51,831 tested individuals (of whom 4769 were confirmed to have COVID-19). The test set contained data from the subsequent week (47,401 tested individuals of whom 3624 were confirmed to have COVID-19). Our model predicted COVID-19 test results with high accuracy using only eight binary features: sex, age ≥ 60 years, known contact with an infected individual, and the appearance of five initial clinical symptoms. Overall,

we developed a model that detects COVID-19 cases by simple features accessed by asking basic questions. Our framework can be used, among other considerations, to prioritize testing for COVID-19 when testing resources are limited.

This pandemic continues to challenge medical systems worldwide in many aspects, including sharp increases in demands for hospital beds and critical shortages in medical equipment, while many healthcare workers have themselves been infected. Thus, the capacity for immediate clinical decisions and effective usage of healthcare resources is crucial. The most validated diagnosis test for COVID-19, using reverse transcriptase polymerase chain reaction (RT-PCR), has long been in shortage in developing countries. This contributes to increased infection rates and delays critical preventive measures.



In this paper, we propose a machine-learning model that predicts a positive SARS-CoV-2 infection in a RT-PCR test by asking eight basic questions. The model was trained on data of all individuals in Israel tested for SARS-CoV-2 during the first months of the COVID-19 pandemic. Thus, our model can be implemented globally for effective screening and prioritization of testing for the virus in the general population.

INTRODUCTION

The World Health Organisation (WHO) has declared the coronavirus disease 2019 (COVID-19) a pandemic. A global coordinated effort is needed to stop the further spread of the virus. A pandemic is defined as “occurring over a wide geographic area and affecting an exceptionally high proportion of the population.” The pandemic reported in the world was the H1N1 flu pandemic in 2009. 31 December 2019, a cluster of cases of Pneumonia of unknown cause, in the city of Wuhan, Hubei province in China, was reported to the World Health Organisation. In January 2020, a previously unknown new virus was the identified, subsequently named 2019 novel coronavirus, and

samples obtained from cases and analysis of the virus’ genetics indicated that this was the cause of the outbreak. This novel coronavirus was named Coronavirus Disease 2019 (COVID-19) by WHO in February 2020. The virus is referred to as SARS-CoV-2 and the associated disease is COVID-19.

OBJECTIVES

This document outlines strategies and objective for sustainable SARS-CoV-2 testing of population to achieve specific public health objective in various epidemiological situations. General population -wide testing ,as well as targeted of individuals ,or specific population related to particular setting ,are presented on the basis of country experiences and information collected from scientific literature.

RELATED WORK

Registration: *This module helps in registering information about patients and handling both IPD and OPD patient’s query. A unique ID is generated for each patient after registration. This helps in implementing customer relationship*



management and also maintains medical history of the patient.

Covid prediction: To assess workforce capacity during COVID-19 and non-COVID-19 functions during the course of the outbreak, including task distribution, health workforce infections and availability of personal protective equipment

Take action: To assess the structural capacities of facilities to allow safe COVID-19 case management, maintain the delivery of essential services and enable surge capacity planning

View Report: Lab Test System carry complete details of the test services that are available in the hospital such as blood test and different other test services. It also manages the history of test details according to the registered patient name.

PROPOSED METHOD

In spite the success of machine learning approaches, their performance is highly affected by the quality of the hand-engineered features. The hand-engineered features are not optimal and also a time-consuming task. This is the main drawback

of machine learning approach in an existing system despite the success, these techniques suffer from serious degradation in performance.

DL approaches, especially have their efficiency for various computer vision tasks such as object detection, natural language processing, image segmentation and classification. Motivated from the computer vision community, the medical community has also adopted the model to solve many medical image analysis tasks.

Advantages of proposed System:

- Features can be extracted using the view report technique
- The normal people and covid attacked people will be detected.
- The accuracy of the covid will be predicted
- In the first stage the input details is entered and its converted to using the help of details given by patient to identified the covid.
- Experimental results show that the segmented risks have a high accuracy



BLOCK DIAGRAM

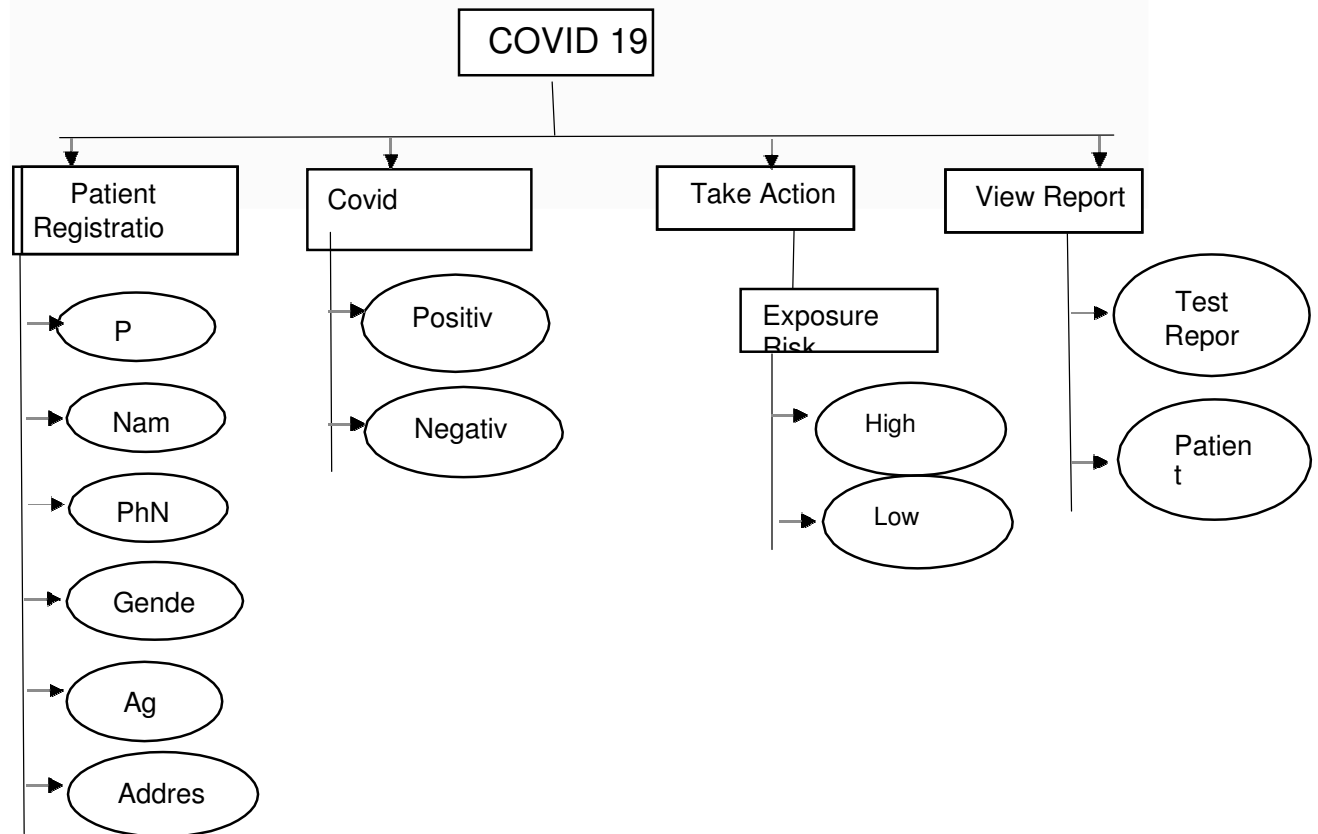


Figure1.0

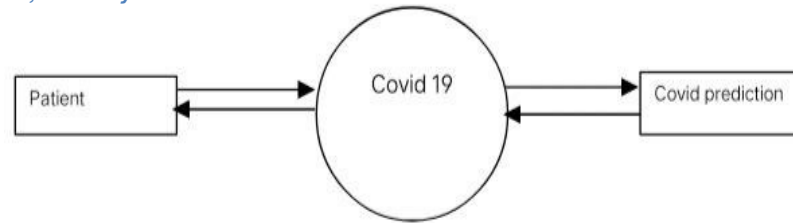


Figure 1.1

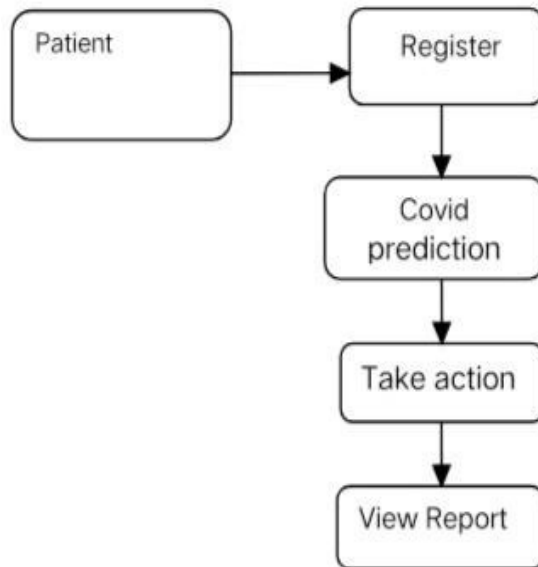


Figure 1.2

RESULT AND CONCLUSION

DFDs show the flow of data from external entities into the system, showed how the data moved from one process to another, as well as its logical storage. There are only four symbols:

- Squares representing **external entities**, which are sources or destinations of data.
- Rounded rectangles representing **processes**, which take data as input, do something to it, and output it.
- Arrows representing the **data flows**, which can either, be electronic data or physical items.
- Open-ended rectangles representing **data stores**, including electronic stores such as databases or XML files and physical stores



*such as or filing cabinets or stacks
of paper.*

SCREENSHOT

Form1

LOGIN

USER NAME

PASSWORD

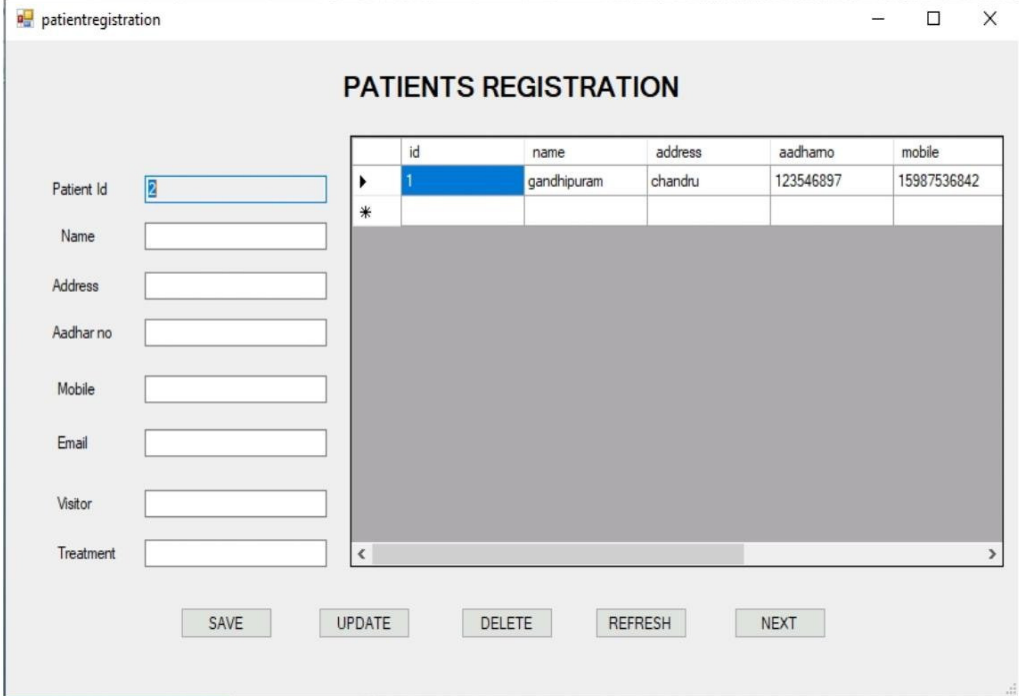
LOGIN

Figure1.1

homepage

Patient Registration Symptoms Report

Figure1.2



PATIENTS REGISTRATION

Patient Id

Name

Address

Aadhar no

Mobile

Email

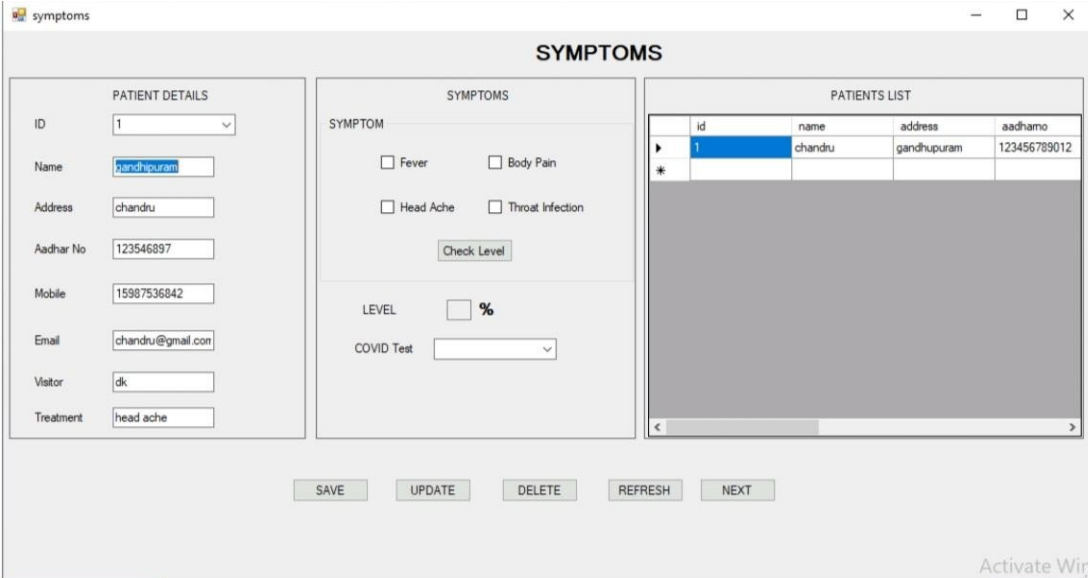
Visitor

Treatment

	id	name	address	aadhamo	mobile
▶	1	gandhipuram	chandru	123546897	15987536842
*					

SAVE
UPDATE
DELETE
REFRESH
NEXT

Figure1.3



SYMPTOMS

PATIENT DETAILS

ID

Name

Address

Aadhar No

Mobile

Email

Visitor

Treatment

SYMPTOMS

SYMPTOM

☐ Fever
 ☐ Body Pain

☐ Head Ache
 ☐ Throat Infection

LEVEL

COVID Test

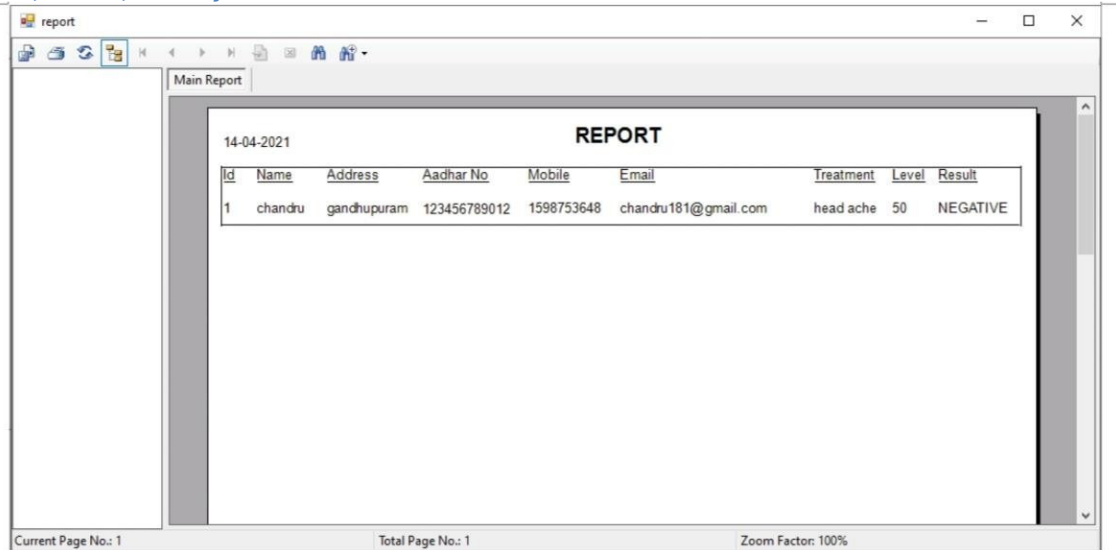
PATIENTS LIST

	id	name	address	aadhamo
▶	1	chandru	gandhipuram	123456789012
*				

SAVE
UPDATE
DELETE
REFRESH
NEXT

Activate Win

Figure1.4



REPORT								
Id	Name	Address	Aadhar No	Mobile	Email	Treatment	Level	Result
1	chandru	gandhupuram	123456789012	1598753648	chandru181@gmail.com	head ache	50	NEGATIVE

Figure1.5

CONCLUSION AND FUTURE WORK

The rapid spread of COVID-19 across the world and the increasing number of deaths require urgent actions from all sectors. Future prediction of potential infections will enable authorities to tackle the consequences effectively. Furthermore, it is necessary to keep up with the number of infected people by performing regular check-ups, and it is often vital to quarantine infected people and adopt medical measures. Additionally, attention should be given to several other factors to curb the spread of COVID-19, such as the environmental effects and the similarities among the most affected areas, and careful measures should be adopted.

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*close-contactsurveillance-
covid-19- technology/*

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