



Healthcare Assistant | G.Yogeshwar & M Sneha



## Team Members

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# Problem Statement

In the modern era, there exists a set of **common health conditions** that occurs to a in our country

A lot of **young and working professionals** are unaware about the serious health conditions they may face due to the ignorance of their typical and modern lifestyle

Patients in several parts of the world suffer from common health conditions such as Diabetics, blood pressure and much more, which can be prevented during early monitoring

These health conditions can be a **major deciding factor** in the upcoming future.



# Introduction

We have built a smart diagnostic tool that can **diagnose/identify** the possible health conditions the user may have, or you are likely to have in the upcoming period.

A **framework/database** is built with all the common health conditions and the possible symptoms

The application collects the input from the user such as **height, weight, gender, age, lifestyle, food intake**, and much more information to process their lifestyle and their activities.

**Based on the inputs and the symptoms that users experience.**

The framework analyses the users' data and gives insight under **four different categories**

1. **The health condition**
2. **The possible cause**
3. **Suggestions**
4. **The cure**



# Objectives

They would be tested under common conditions like obesity, blood pressure, diabetics, and common health conditions that the user is likely to suffer in the future

The tool is capable of **warning them against the possible health conditions** that they are likely to receive in the upcoming years

The tool would suggest common **health saving practices** and possible general foods and diet to be consumed to maintain a healthy lifestyle

This tool could save the lives of the **million and would create awareness** amongst the users and the common beings who are suffering from these health conditions.

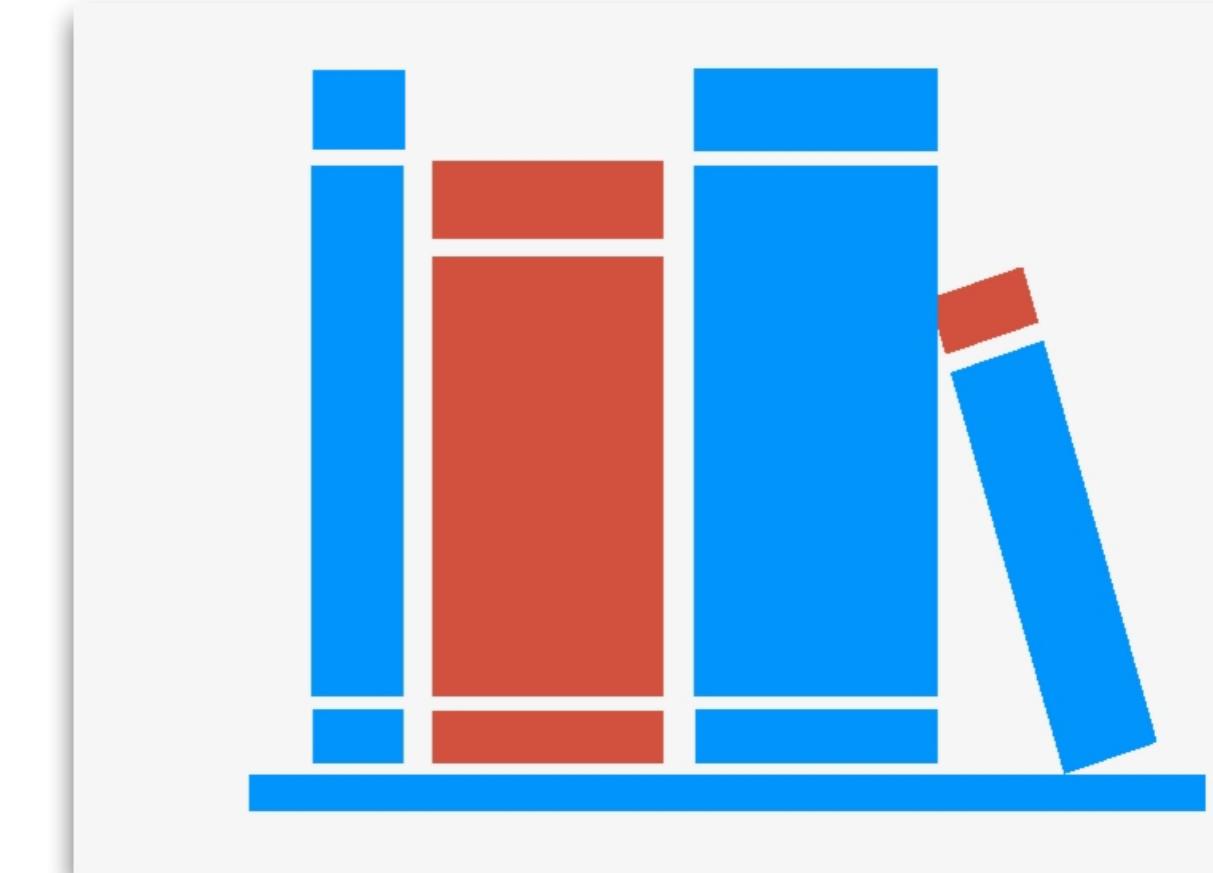


# Review of Literature

## Medibot

The main purpose behind building a Medical chatbot is to reduce the efforts taken in identifying the diseases in the health care sector and to improve the knowledge about the disease one possess. As seen in Prakhar Srivastava & Nishanth Singh's research work (2020)[1], Their chatbot systems gathers input from a user and analyse the diseases they may possess. Their chatbot owns an **accuracy of sixty five percent**.

Their research work proved that a medical chat bot could be an efficient way to act as an active bridge between the medical world and the patients



# Review of Literature

## Automated Diet Planner

The study by Prithvi Vasireddy(2020) [2] focuses on the use of Robotic process automation by various applications by Healthify gets the input from the users such as height, weight, age, gender, target weight, medical conditions and much more. **Then, the intelligent automation process the details and prepares a meal planner with the help of the recommendation framework implemented by the companies.** The Automated diet proves to be an active edge to utilise the technology of cognitive learning to implement in the domain of healthcare.



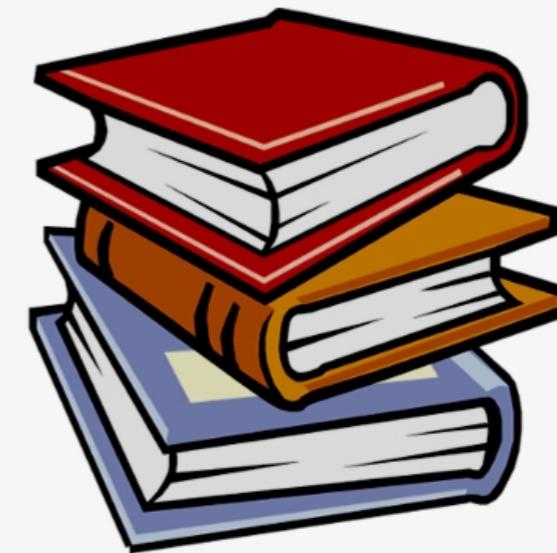
# Review of Literature

## Nurse Bot

Attending the elderly and sick people may be a tiring and exhausting task. As seen in Jesus Alvarez and Guillermo Campos' research article (2018) [3] they have built an active **nurse bot to attend the sick and elderly.**

The bot **schedules a periodic test** including vital signs like heartbeat, saturation, blood pressure and oxygen levels and updates them into the respective physicians. A report is generated at the end of the day for the follow-up.

The nurse bot is a valuable prototype to the domain of nursing.



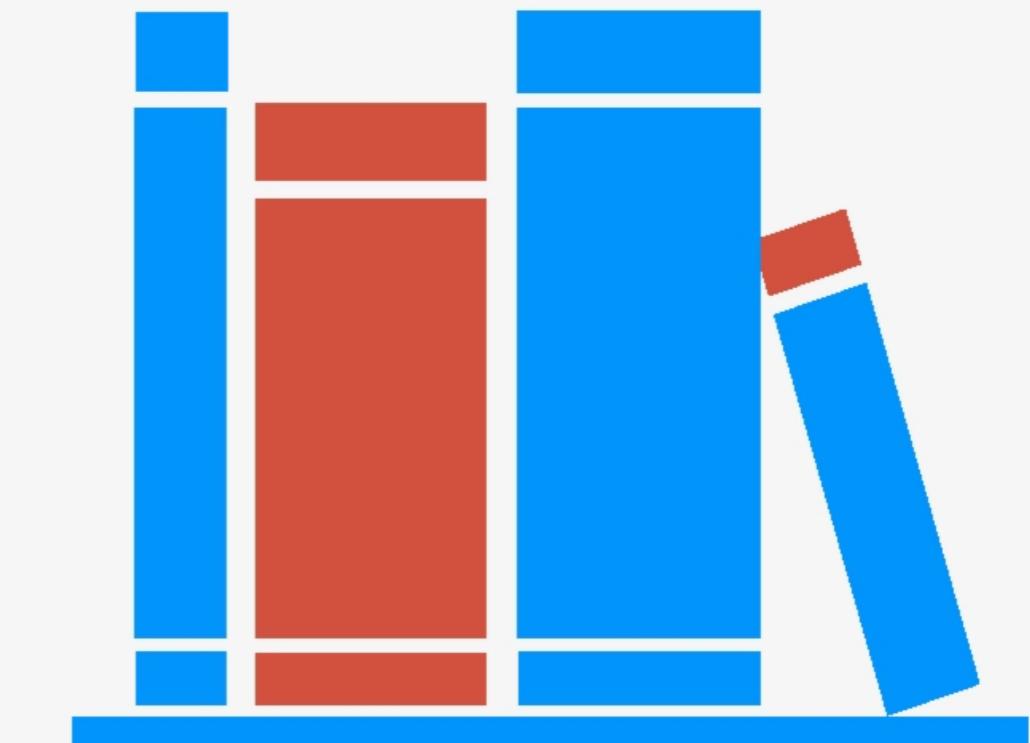
# Review of Literature

## Breast Cancer Detection Using thermal imaging and deep learning

Breast cancer is one of the major problems for women in recent years, especially in India. As seen in the research work by Smith Mishra[4] There are **3 types** of breast cancers. They are Ductal Carcinoma, Invasive Carcinoma, and Invasive Lobular.

The scanning technology used in this paper are Thermal Scanning. They used Computer Vision Toolbox for training and detection process. And they took the data from Visual Lab Group of Federal Fluminense University, Brazil.

The overall accuracy of this model is **95.84** Percentage.



# Review of Literature

## Smart diagnosis of pulmonary TB using Sputum smear microscopy

It is a simple inexpensive test which does not require sophisticated laboratory infrastructure or extensive training of laboratory personnel and the results are available within hours.

It was reported by Lynn S[5] that FM has a higher sensitivity than the standard light microscopy but similar specificity with standard light microscopy.

In HIV positive patients, there was insufficient data to determine the value of FM.



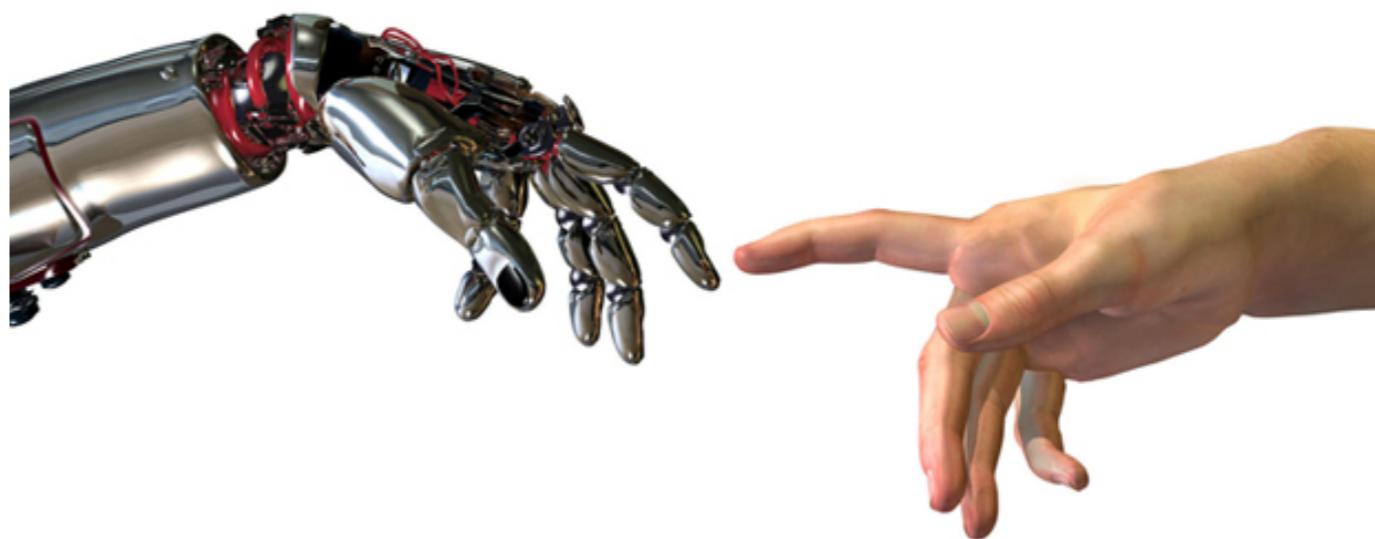
# Specific Problem statement

The previous literatures worked on improving the accuracy in the prediction and in the recommendation systems in the world of health care. Their systems and frameworks had an active edge on the analysis, recommendation intelligence, cognitive intelligence and active suggestions.

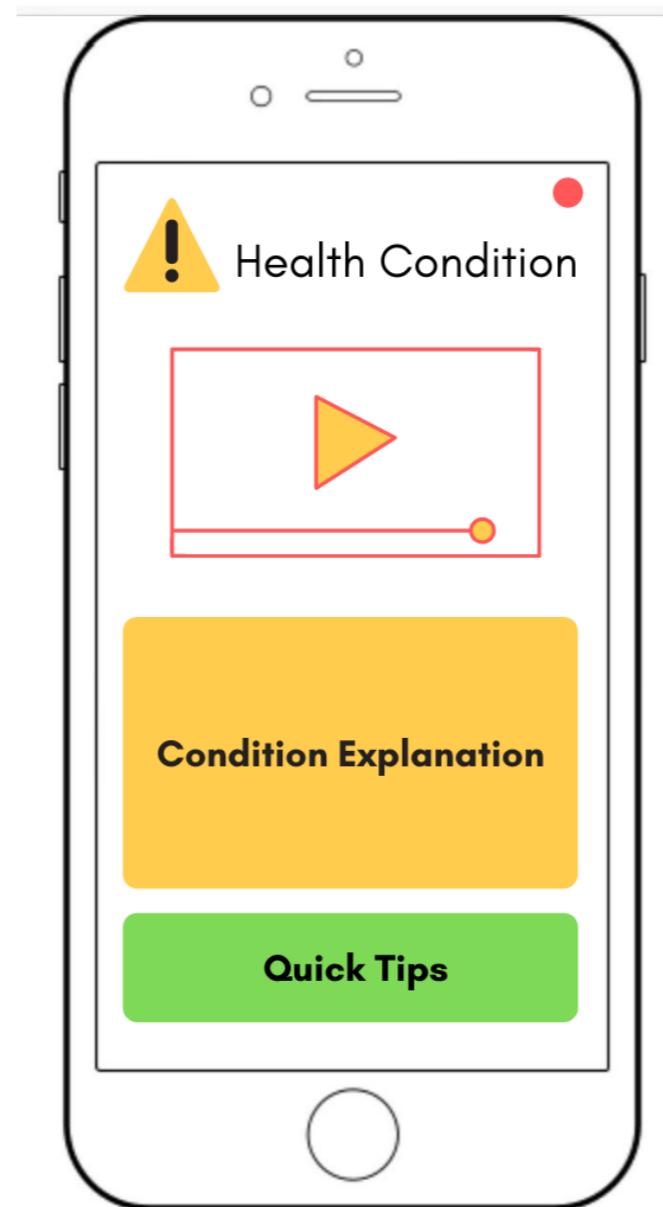
Our focus is working on the simplicity in explaining the users about the health conditions they may receive. The tool is created with more user friendly and in a personal manner to be able to connect with the type of user.

We are improving the algorithm in various degrees to improve the **accuracy, speed and the responsiveness of the assistant**

Since different users have different understanding, the tool would possess a different representation screen which shows about the name of the condition and a **detailed explanation about the product along with valid animations and explanations (if required)**



# An Early Design



Notification Dot

Multimedia information to provide visual knowledge

The current status and explanation to give textual context

Quick tips and tricks to prevent or cure the user



# Citations

- [1] Prakhar Srivatava, Nishanth Singh, Medicbot. International Conference on Power Electronics and IoT(PARC), Mathura, India,2020.
- [2] Prithvi Vasireddy, Autonomous diet recommendation System.ICICCS, Madurai, India,2020.
- [3] Jesus Alveraz, Guillermo Campos, Nurse Bot - A robot system applied to medical science. ICMEAE, Mexico, 2020.
- [4] JSumitha Mishra, Adithya Prakash, Breast cancer detection. IEEE conference, Mexico, 2020.
- [5] Lynn S. Zijenah, Smart diagnosis to TB. IEEE, 2018.



# Notable Revisions

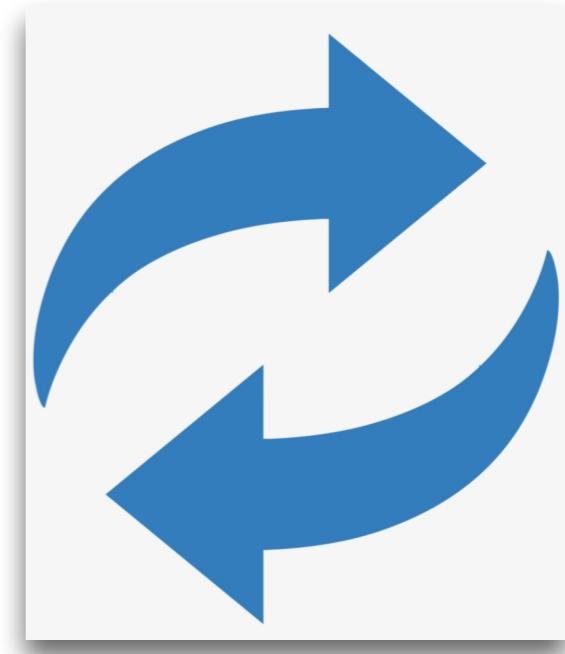
Addition of two more base papers in the review one

Change in the title of the project

Change in the redefined problem statement

Change in the references style

Inclusion of first design model





Thank You