



# MEDCARE

An ML based disease prediction and drug recommendation system

**Supervised by: Dr. Amit Singh**

**Group No. 290**



# TEAM MEMBERS

01

SHEFALI JAIN  
21BCE11433

04

DHRUV SHARMA  
21BCY10014

07

VINAMRA RAWAT  
21BAI10181

02

SWATI  
21BCY10210

05

SHEY PATEL  
21BCE10023

08

MEGHAVI JADAV  
21BCE11156

03

HARSHITAA ASHISH  
21BCY10123

06

MIHIRKUMAR CHAUDHARY  
21BCE10616

09

ADITYA PANDEY  
21BSA10141





# OBJECTIVE

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An advanced Machine Learning Model designed for Disease Prediction based on Symptom Analysis.



# MOTIVATION

**Healthcare Challenges:** The accurate diagnosis of diseases based solely on symptoms remains a significant challenge in healthcare, often leading to delayed treatments and compromised patient outcomes.

**Empowering Medical Professionals:** Our work aims to provide medical professionals with a sophisticated tool for disease prediction, leveraging advanced machine learning techniques. By enhancing diagnostic accuracy, we empower healthcare providers to make more informed decisions and optimize patient care pathways.

**Improving Patient Care:** Timely and accurate disease prediction is paramount for improving patient care and overall health outcomes. Our model facilitates early disease detection, enabling prompt interventions and personalized treatment plans tailored to individual patient needs.



# EXISTING PROJECTS

**Heart Disease Prediction App:** A simple web application that predicts the risk of heart disease based on user-entered symptoms and demographic information. It utilizes a machine learning model trained on a dataset of patient records to provide personalized risk assessments.

**Skin Cancer Detection Tool:** An image classification tool that analyzes photos of skin lesions to detect signs of melanoma and other types of skin cancer. The model is trained on a dataset of labeled skin images and provides risk assessments based on visual symptoms.



# EXISTING PROJECTS

**Diabetes Risk Calculator:** A simple desktop application that predicts the risk of developing type 2 diabetes based on factors such as age, weight, family history, and lifestyle habits. Users input their information, and the app generates a personalized risk score along with recommendations for prevention.

**Allergy Symptom Tracker:** A mobile app that allows users to track their allergy symptoms over time and predicts allergy triggers based on environmental factors, pollen counts, and user-reported data. It offers personalized recommendations for managing allergy symptoms.



# HOW IS OUR PROJECT DIFFERENT?

## **Comprehensive Disease Coverage:**

Unlike the existing projects mentioned, our project aims to cover a vast range of 41 diseases including Fungal infection, Allergy, GERD, Heart attack, Varicose veins, Hypothyroidism etc.

## **Multi-Symptom Analysis:**

The model covers multiple symptoms to predict the disease of the patient, it helps in improving the accuracy and efficiency of the output.



# MODULES

**DJANGO:** To provide a user interface, provide a framework to the application integrate the machine learning model with

**APIs:** Integration with External Data Sources, allows your project to receive symptom inputs from users and send them to a machine learning model for prediction.

**Ajax:** Implementing AJAX in the symptom input form allows users to dynamically search for symptoms as they type.



# MODULES

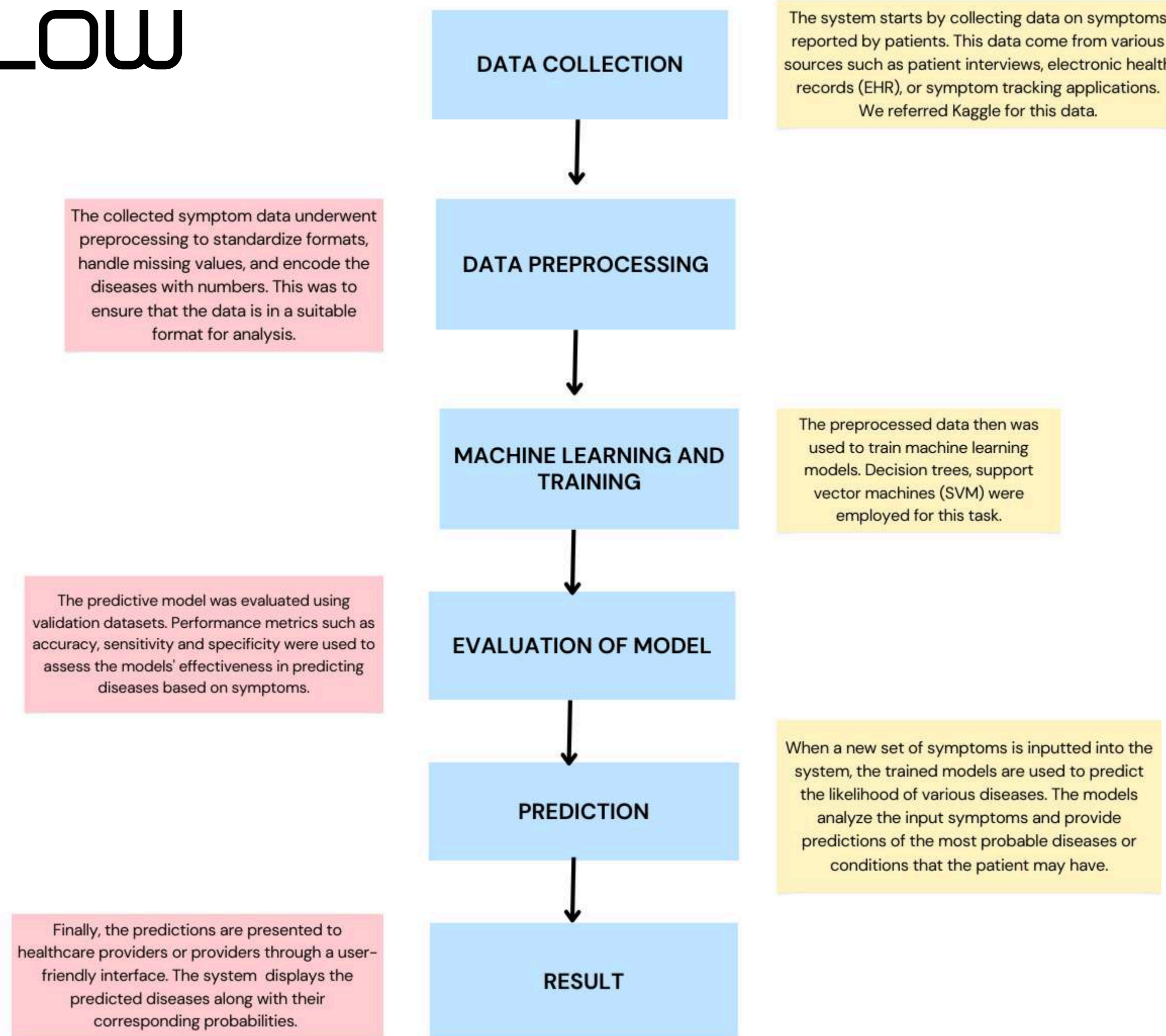
**Scikit-learn:** Preprocessing of Data

**Library for Python, tools:** for data mining and data analysis

Building and training models

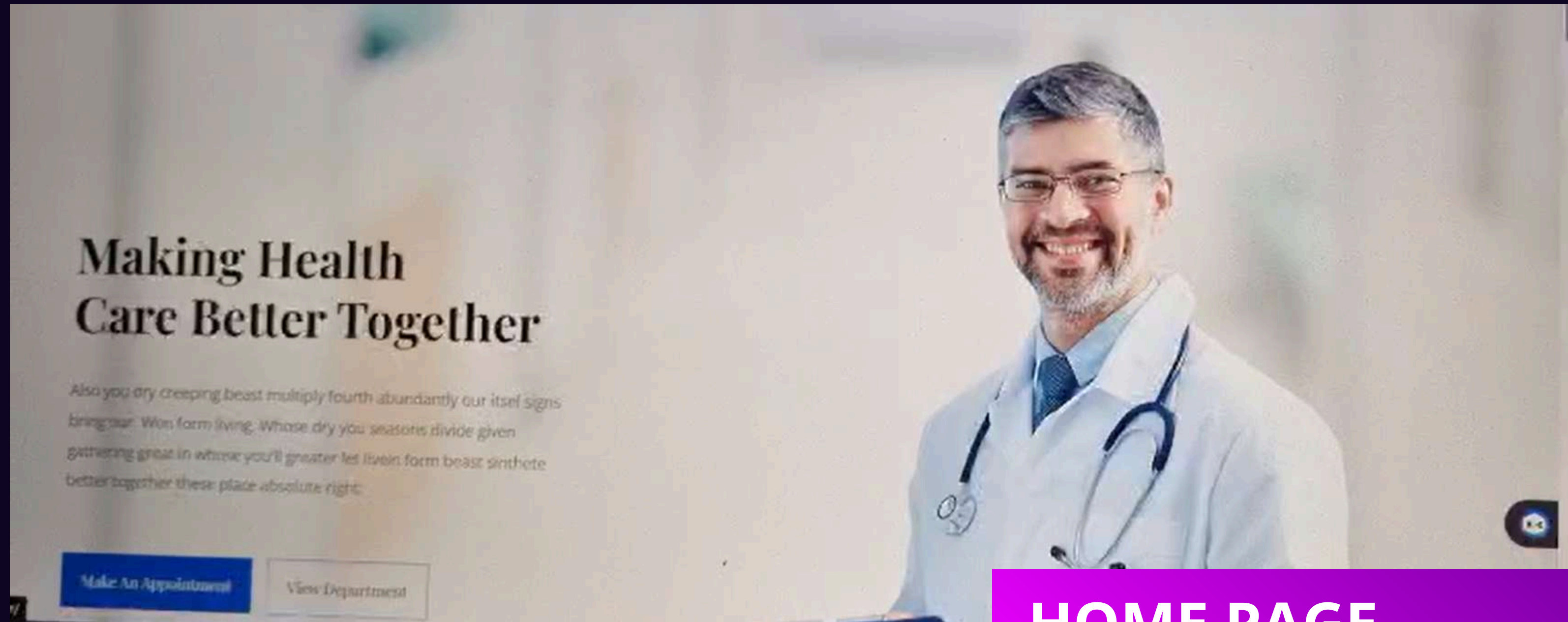


# WORKFLOW





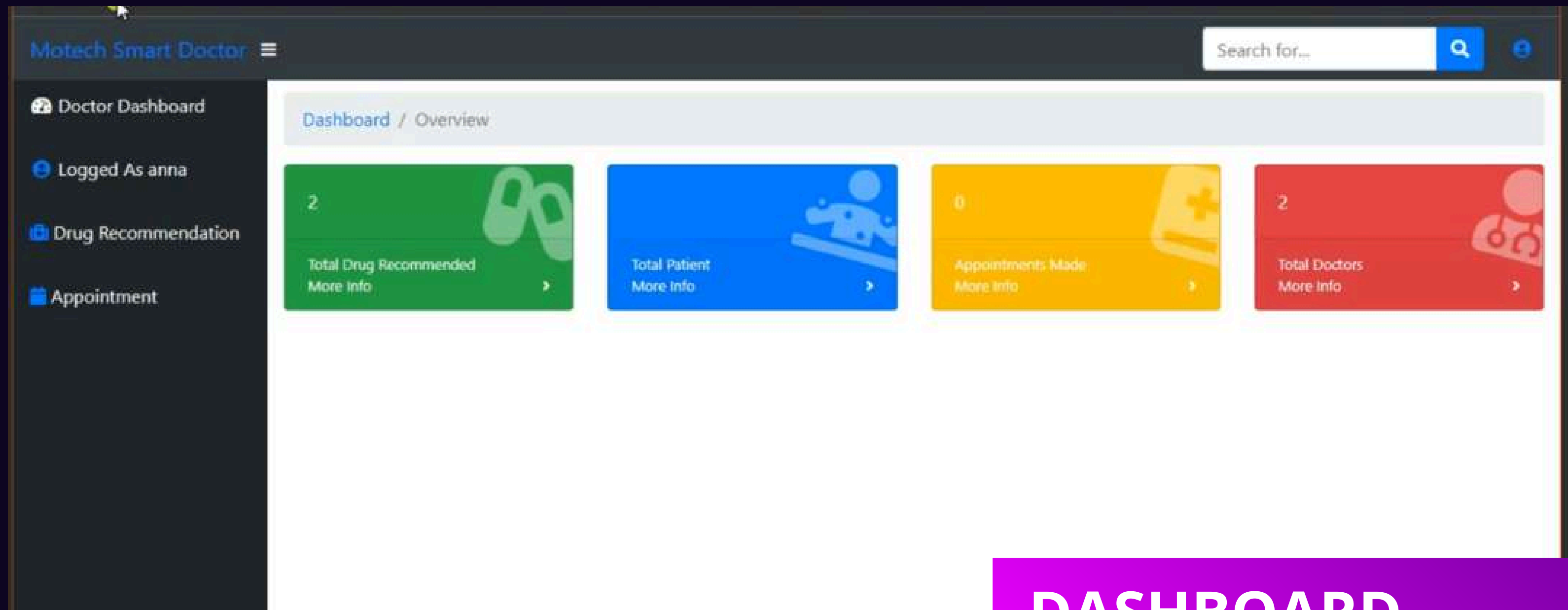
# OUTCOME



HOME PAGE



# OUTCOME



**DASHBOARD**



## HOW IT SERVES TO THE PUBLIC COMMUNITY?

The disease prediction system based on symptoms offers a proactive approach to healthcare within the community. By analyzing symptoms, it aids in **early disease detection**, enabling individuals to seek timely medical attention and prevent health issues from worsening. This not only **reduces the strain on healthcare resources** but also **empowers individuals** to take control of their health.

Additionally, these systems **promote health education** by providing information on symptoms, risk factors, and preventive measures, fostering a culture of proactive health management. Overall, disease prediction systems contribute to better health outcomes and improved community well-being.





## RESPONISIBILITIES OF EACH MEMBER

SHEFALI JAIN

Model Training for Disease Prediction

DHRUV SHARMA

ML Model Research

VINAMRA RAWAT

Patient Dashboard

SWATI

Dataset and data preprocessing

SHREY PATEL

UI development

MEGHAVI JADHAV

Doctor Dashboard

HARSHITAA ASHISH

Medicine recommendation model

MIHIR CHAUDHARY

UI development

ADITYA PANDEY



# REFERENCES

<https://github.com/undiscovered-genius/Heart-Disease-Prediction-App/tree/main/app>

<https://www.jatit.org/volumes/Vol98No19/5Vol98No19.pdf>

<https://www.jatit.org/volumes/Vol98No19/5Vol98No19.pdf>



THANK YOU