AI-based Patient Diagnosis Support and Medicine Recommendation System

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Submitted by: Priyanka

UID: 23BAI70303

Section: 23AIT_KRG 1

Group-'A'

University: Chandigarh University

ABSTRACT

The Disease Prediction System is a web-based application designed to predict possible diseases based on the symptoms entered by users. Using machine learning algorithms and a dataset of diseases and symptoms, the system can analyze user inputs and provide likely medical conditions along with short-term medication advice. This project provides a quick and efficient way for individuals to assess their health status when medical consultation is unavailable.

INTRODUCTION

With the advancement of technology, healthcare has seen significant improvements through the use of artificial intelligence and data analytics. The main objective of this project is to develop a web application that predicts diseases from symptoms entered by the user. The project integrates machine learning techniques with a simple web interface, enabling users to obtain preliminary health assessments instantly.

SYSTEM ARCHITECTURE

The system consists of three main components:

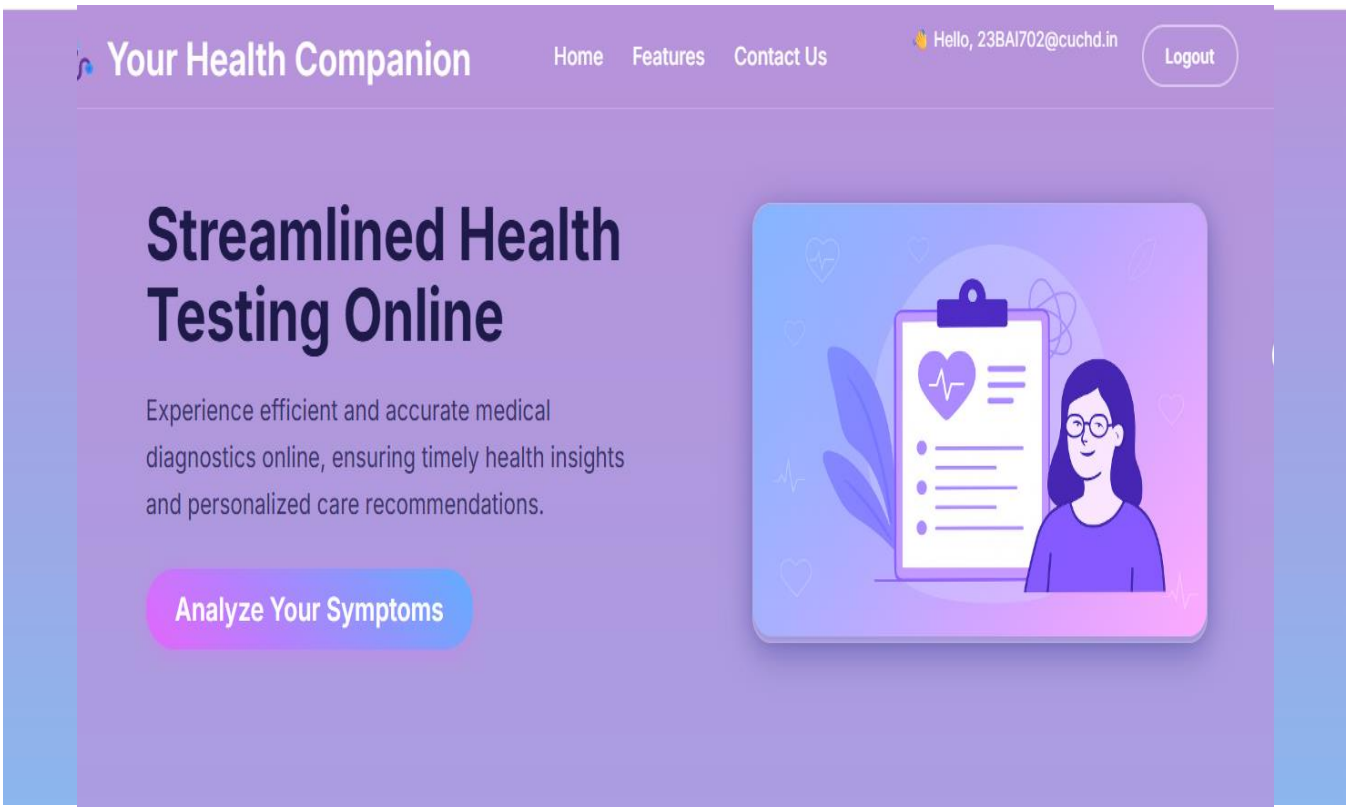
1. Frontend – Built using HTML, CSS for user interaction.
2. Backend – Developed with Flask (Python framework) to handle requests.
3. Database – SQLite used for user management and storing data.
4. Machine Learning Model – Trained using algorithms such as Random Forest to analyze symptom data.

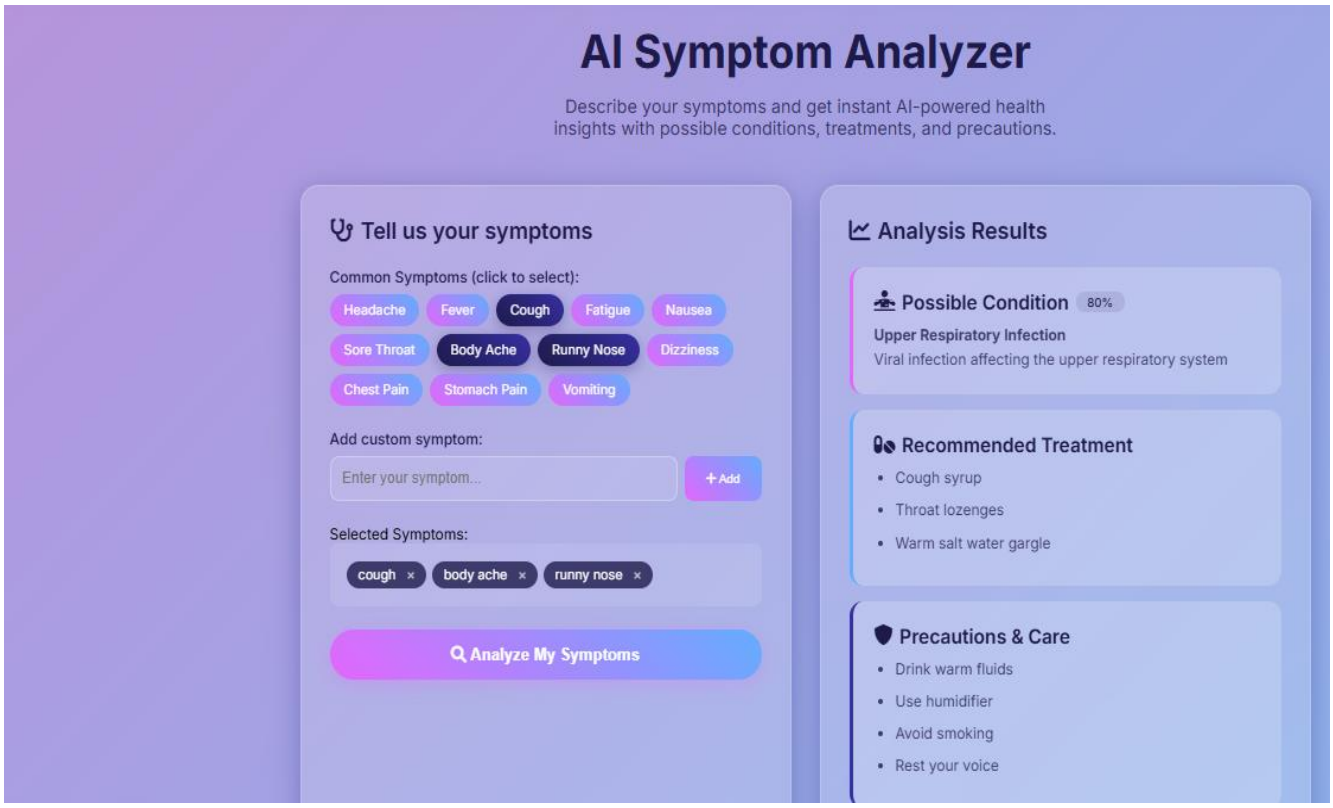
IMPLEMENTATION

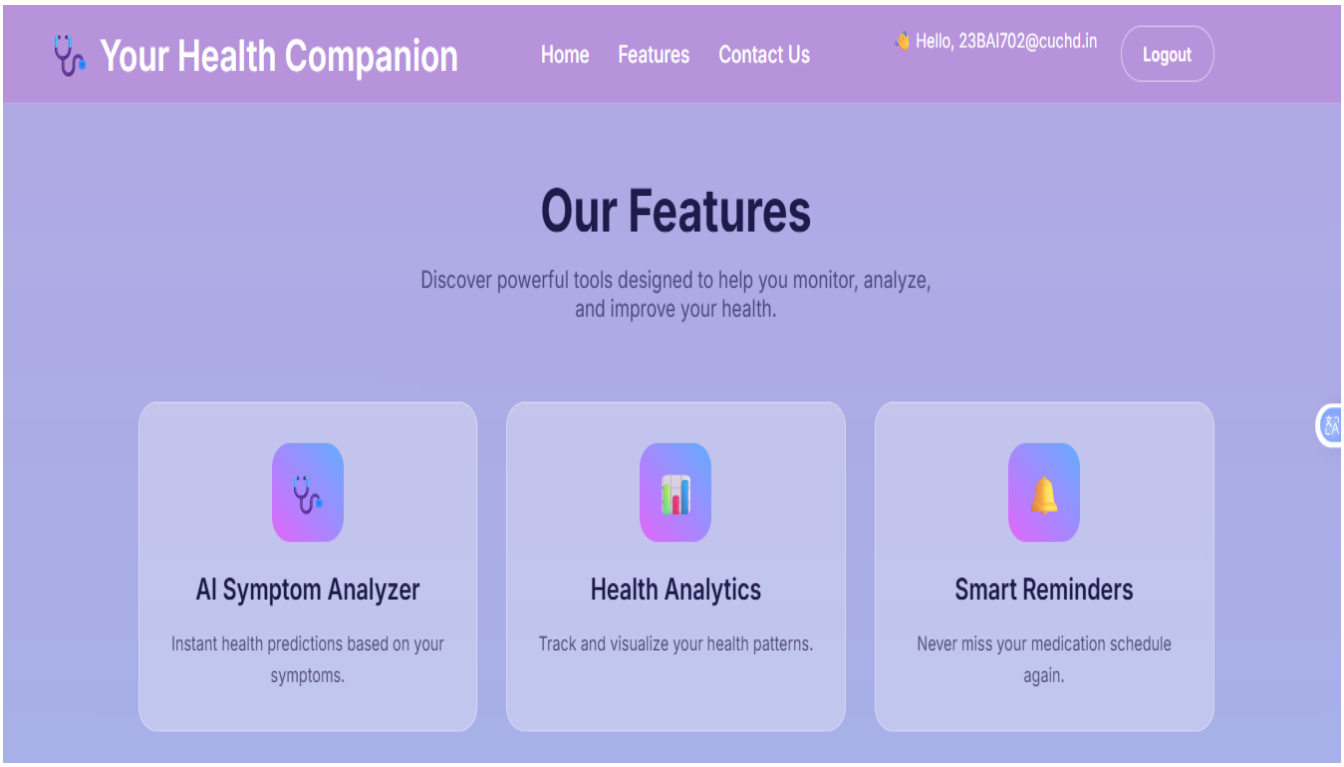
The implementation begins with preprocessing the dataset containing symptoms and diseases. A machine learning model (Random Forest Classifier) is trained to classify diseases based on the input symptoms. The trained model is integrated into a Flask web application. Users can log in, enter their symptoms, and receive predicted disease results. The project also includes smart reminders to help users track medication schedules.

OUTPUT

The output of the project is a user-friendly website that allows users to input symptoms and get predicted diseases. Screens such as login, signup, symptom analysis, and smart reminders demonstrate the complete workflow of the project.


Your Health Companion
Home
Features
Contact Us
Hello, 23BAI702@cuchd.in
Logout
Streamlined Health Testing Online
Experience efficient and accurate medical diagnostics online, ensuring timely health insights and personalized care recommendations.
Analyze Your Symptoms


AI Symptom Analyzer
Describe your symptoms and get instant AI-powered health insights with possible conditions, treatments, and precautions.
Tell us your symptoms
Common Symptoms (click to select):
Headache
Fever
Cough
Fatigue
Nausea
Sore Throat
Body Ache
Runny Nose
Dizziness
Chest Pain
Stomach Pain
Vomiting
Add custom symptom:
Enter your symptom...
+ Add
Selected Symptoms:
cough ×
body ache ×
runny nose ×
Analyze My Symptoms
Analysis Results
Possible Condition
80%
Upper Respiratory Infection
Viral infection affecting the upper respiratory system
Recommended Treatment
Cough syrup
Throat lozenges
Warm salt water gargle
Precautions & Care
Drink warm fluids
Use humidifier
Avoid smoking
Rest your voice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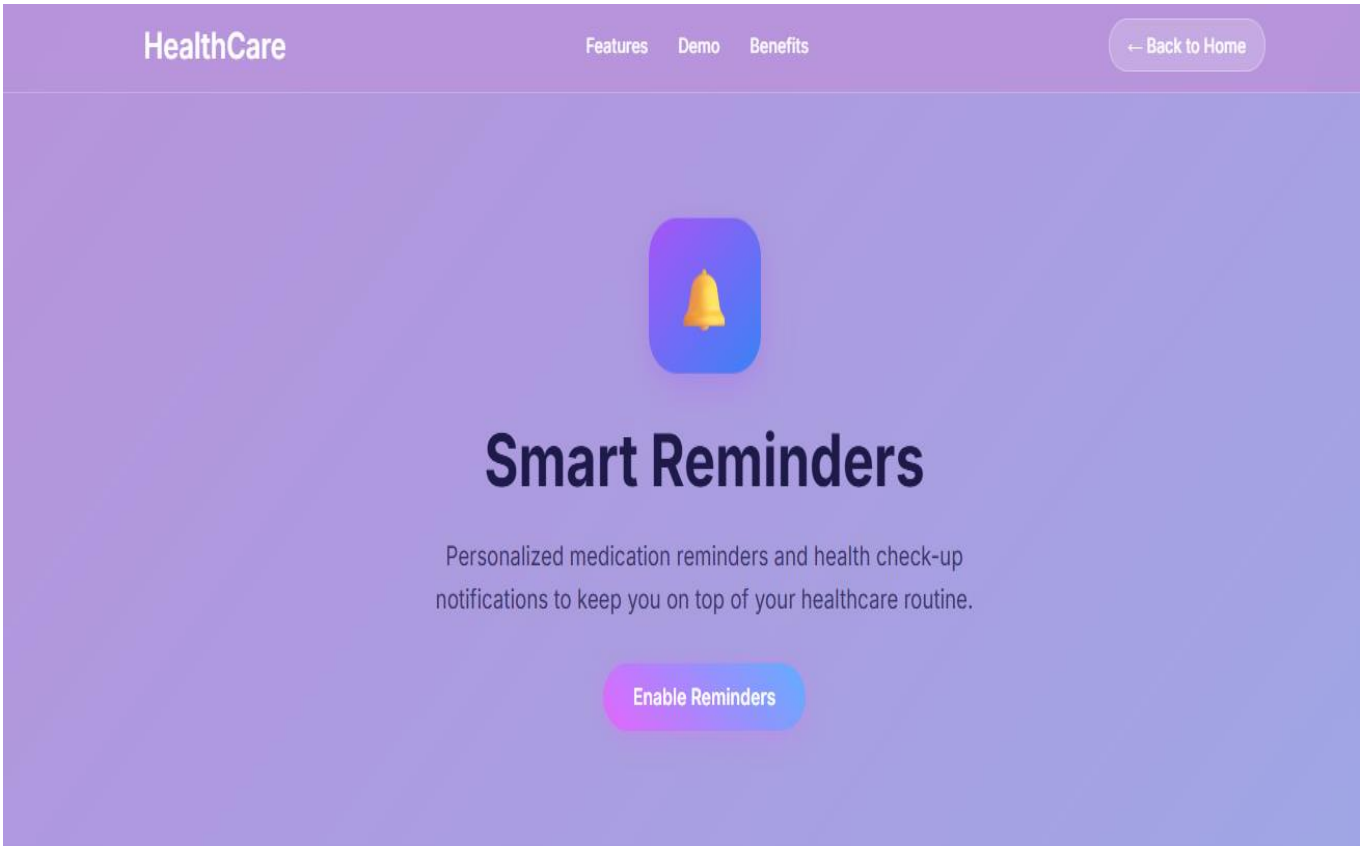
Logout
Our Features
Discover powerful tools designed to help you monitor, analyze, and improve your health.
AI Symptom Analyzer
Instant health predictions based on your symptoms.
Health Analytics
Track and visualize your health patterns.
Smart Reminders
Never miss your medication schedule again.



CONCLUSION

The Disease Prediction System successfully provides an efficient method for early disease detection based on symptoms. This system can be further improved by integrating larger datasets, real-time data collection, and connecting users to healthcare professionals for better treatment suggestions.

FUTURE SCOPE

In the future, the system can be enhanced to include real-time user health monitoring, integration with wearable health devices, and AI-based personalized medical assistance. The reminder system can also be extended to send push notifications or SMS alerts to patients.

REFERENCES

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3. SQLite Official Documentation – https://www.sqlite.org
4. Healthcare Machine Learning Research Papers and Datasets.