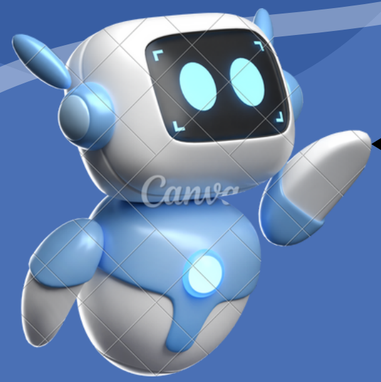
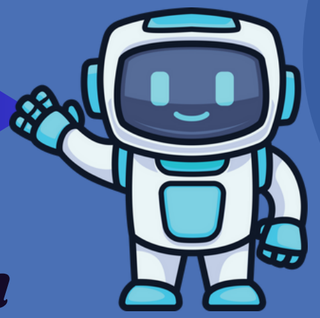
Theme : HEALTHCARE

PS : Early Disease Prediction System: Develop a model that predicts heart disease based on patient data (age, BMI, glucose levels, etc.).



Team Debuggers



Presenting to you

CARDIOSENSE.AI

AI-POWERED HEART DISEASE PREDICTION SYSTEM

Introduction

Heart disease is the leading cause of death worldwide, often going undetected due to high healthcare costs and limited access to regular checkups. Traditional diagnostics require specialists and expensive tests, making early detection challenging.

CardioSense.AI is an AI-powered solution that offers an accessible, cost-effective, and efficient way to predict heart disease early, enabling proactive health measures.

Problem Statement

- Limited accessibility to regular medical checkups.
- Expensive and time-consuming traditional diagnosis
- Lack of early detection tools leading to severe complications
- Need for an AI-powered system to provide risk assessment

Our Solution - CardioSense.AI

AI-based heart disease risk prediction using key health indicators

Instant Yes/No risk prediction with a personalized risk score

AI chatbot for real-time health guidance and lifestyle recommendations

Downloadable health reports for easy medical consultation

Key Features

- AI-driven heart disease prediction using XGBoost with high accuracy
- Binary risk prediction (Yes/No) with an explanatory risk percentage.
- Personalized recommendations based on individual risk factors.
- AI Chatbot for 24/7 user assistance & answering health-related queries.
- Downloadable PDF health reports for medical consultation.

Our Objectives

- Provide an easy-to-use AI-powered risk assessment tool.
- Reduce dependency on expensive medical tests.
- Help users take preventive healthcare measures early.
- Support hospitals, telemedicine, and corporate wellness programs.

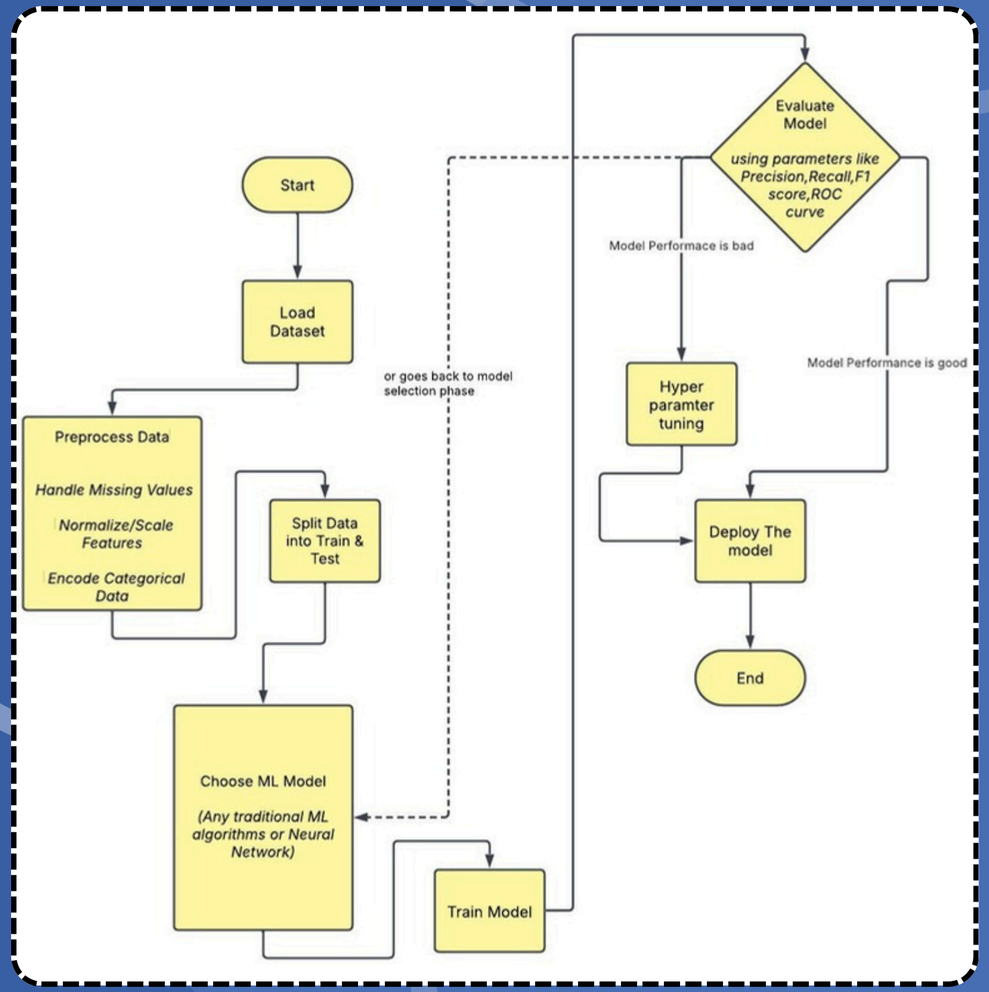
How it works?

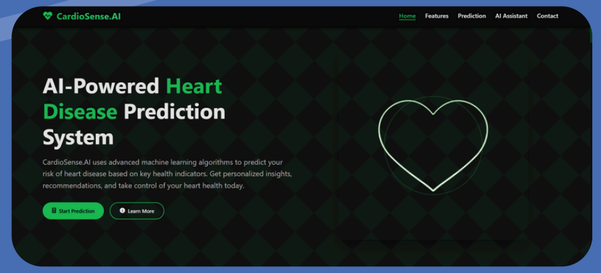
CardioSense.AI follows a structured approach in predicting heart disease risk. The system takes user inputs, processes them through an AI model, and provides instant results with actionable recommendations.

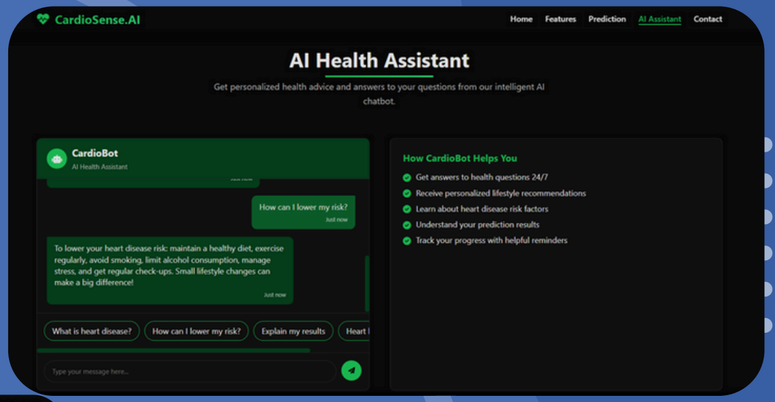
System Workflow

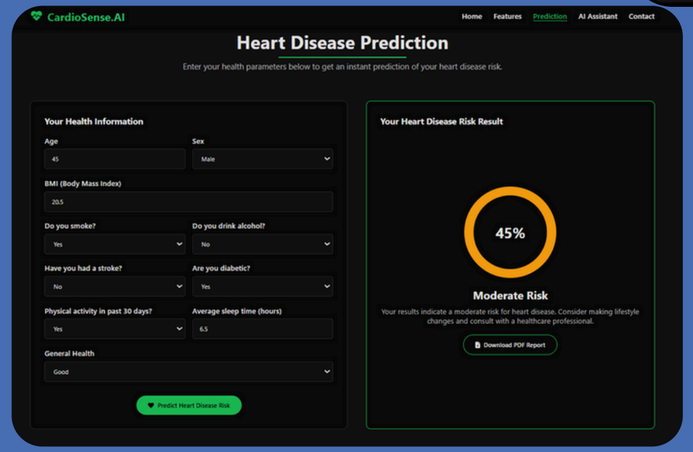
1. **User Input**
   Users enter health parameters (BMI, smoking status, age, etc.).
2. **Data Preprocessing & Feature Selection**
   Data is cleaned & key features selected.
3. **XGBoost Model Processing**
   AI model predicts heart disease risk.
4. **Prediction Output**
   Displays Yes/No risk level & risk percentage.
5. **AI Chatbot & Report Generation**
   Provides real-time guidance & downloadable reports.

Prototype & System Architecture

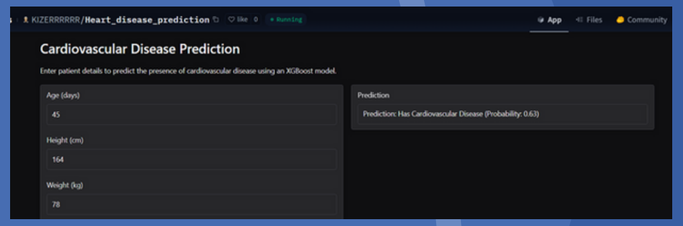








Prototype



Our ML Model Prototype Video : https://youtu.be/6ttrmFLYMTg

Impact & Benefits

Key Benefits

Early Detection
Reduces the risk of late-stage heart disease

Affordable & Accessible
No need for costly medical tests

Scalability
Can be integrated into hospitals, telemedicine platforms, and corporate wellness programs.

User Empowerment
Encourages preventive healthcare behavior.

Real-World Impact Stats

Impact Category	Expected Improvement
Reduction in Heart Disease Mortality	**25%**
Increase in Preventive Checkups	**50%**
Healthcare Cost Savings	**30-40%**

Our Model DataSet Link :
https://www.kaggle.com/datasets/sulianova/cardiovascular-disease-dataset

Why Choose Us?

High Accuracy

AI-powered predictions with high accuracy

AI Chatbot Integration

Provides real-time support for user queries

Personalized Health Reports

Unlike generic models, CardioSense.AI gives tailored health suggestions.

Affordable & Accessible

Makes early-stage diagnosis possible for all

Our Team

Our Detailed Project Report & Video:
https://drive.google.com/drive/folders/1sLE2ty6Jhigz7fqnNt-P0DM5KEpvqtWV?usp=sharing

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THANK YOU