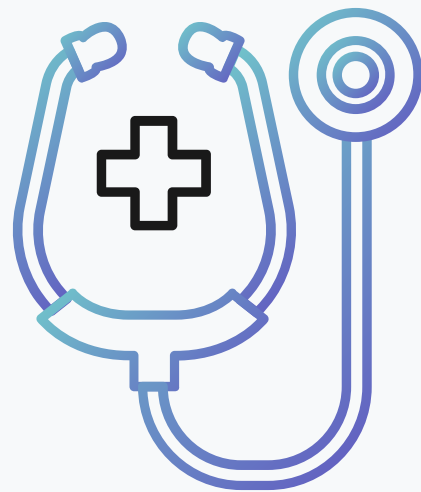


SUPERVISED LEARNING

Healthcare Engine

Predicting your health status... because who doesn't love putting life's most critical decisions in the hands of a few lines of code?



CONTENTS

This project aims for the welfare of people

You can contact via email to take a demo of our product

Overview and Problem Statement	About the project, vision & mission
Workflow and Sources	Basic working mechanism, easy to understandable for non techies also
Idea and Distributions	Idea how the engine predicts making it more user friendly
Tech Stack of the Project	Tools and Technologies used
End to End Implementation Chart	Flowchart analysis how the project runs in the backend and frontend
Deployment and Hosting	Real-Time response and predictions, allowing users to check more

For more info:

LinkedIn - @Aradhya Chaudhary

You can visit our sister projects:

Avian Ailment Analyzer | Movie Recommendation

Project At a Glance

To develop a predictive model and interactive web application that assesses an individual's health risk based on their healthcare engagement patterns, helping to encourage proactive health monitoring.

Key Features:

- **Intuitive Data Entry:** Simplified form with date pickers and dropdowns for easy input of health data (e.g., last visit date, number of visits, health risk status).
- **Automated Risk Analysis:** Leverages machine learning to predict health risk based on recency of visits, frequency of visits, and diagnostic history.
- **Real-Time Feedback:** Provides immediate, user-friendly health risk status upon submission.

Mission & vision



Mission

To empower individuals and healthcare providers with a predictive tool that encourages proactive health monitoring, enabling timely interventions and reducing preventable health risks.



Vision

To create a future where accessible, data-driven insights inspire people to prioritize regular health check-ups, fostering a healthier, more informed society.



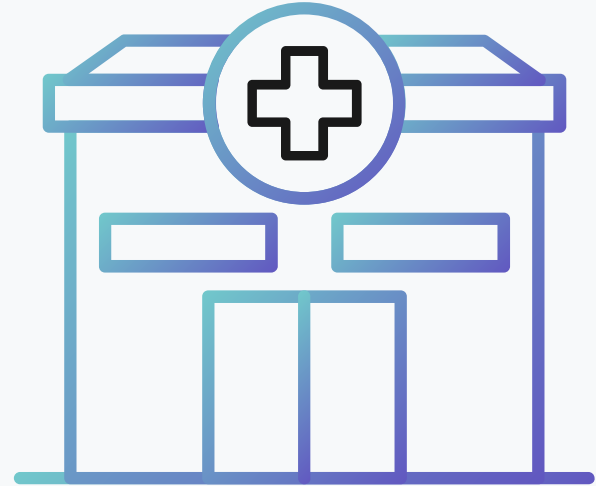
PROBLEM STATEMENT

Delayed health check-ups increase the risk of preventable conditions. This project develops a tool to predict health risk based on patient visit patterns, promoting timely, proactive care.

01

Workflow

How it works





Process behind your expectations

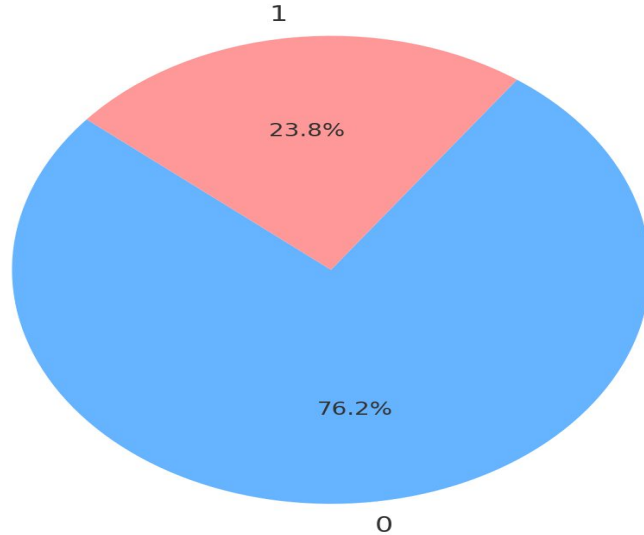
- Data Loading
- Source and Restoration points
- Data Exploration
- Data Visualisation
- Data Cleaning
- Data Preprocessing
- Exploratory Data Analysis
- Feature Extraction
- Feature Engineering
- Model Selection
- Model Training
- Model Tuning
- Model Evaluation
- Storing the model
- Accuracy and Precision checks
- Web Application Backend development
- Frontend by HTML and CSS3
- Hosting and Rendering
- Uptime Checks

IDEA & DISTRIBUTIONS

- **Predictive Healthcare Tool**
 - Build a web-based application to predict health risk based on user engagement patterns (e.g., time since last check-up, visit frequency).
 - Encourage proactive health management by providing instant, personalized health risk assessments.
- **User-Friendly Data Entry**
 - Design an intuitive form with clear labels and date pickers, allowing easy data input for users.
 - Use dropdowns and automated calculations to simplify data entry, ensuring accuracy and ease of use.
- **Real-Time Health Recommendations**
 - Implement a machine learning model that offers immediate feedback to users.
 - Display user-friendly messages (e.g., “High health risk” or “Low health risk”) to guide health decisions.
- **Frontend (30%)**
 - HTML, CSS for user interface and form.
 - Intuitive input fields (e.g., date picker for recency, dropdown for risk status) to ensure ease of use.
- **Backend (30%)**
 - Flask framework to handle form data, integrate with the model, and serve predictions.
 - API endpoints to manage data flow between the frontend and backend.
- **Machine Learning Model (20%)**
 - Logistic regression model to classify health risk based on input features.
 - Model tuning and evaluation to ensure accurate predictions.
- **Data Processing and Management (10%)**
 - Data cleaning and feature engineering to prepare data for accurate modeling.
 - Format date and numeric fields to enhance input consistency.
- **Deployment and Testing (10%)**
 - Testing for usability, reliability, and performance.
 - Deploy the application on a platform like Render or Heroku for public access.

STATISTICS ANALYSIS

Distribution of Target Feature (Class)



Class

Health Risk Status Data

Recency

Time Since Last Visit

Frequency

Number of visits in Year

“CLASS” is the main feature based on which the model recommends the health advice.

YOUR PERSONAL DOCTOR

RECENCY

The last Time you visited

FREQUENCY

Number of visits you did that year



TIME

Time since last diagnostics in months

CLASS

Your Health Status on that last visit based on your report



INTUITION

Looking at the real time, if you visit doctor,
You are mainly asked these questions :

- ***Last time you visited ?***
- ***How many visits you made that time ?***
- ***Time since last report/Diagnostics***
- ***What was your health status that time ?***

So, the engine asks you the same questions and based on your entries it will guess with 87% accuracy whether you are on health risk or not.

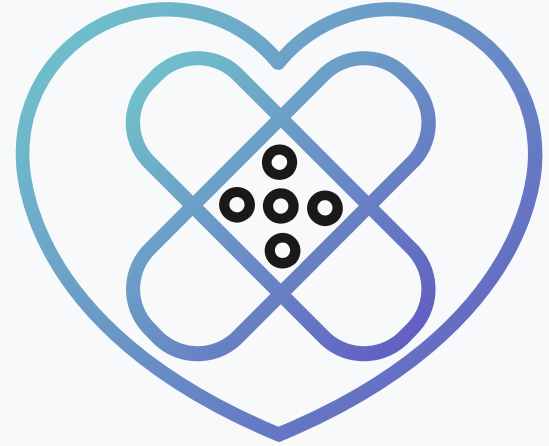
It's pretty obvious that if you haven't visited from last 6 years you maybe at a health risk currently, so the model works in the same thinking process !!

Areas covered by Engine

	Recency	Frequency	Time	Class
Data Source	✓	✗	✓	✓
Feature Engineering	✓	✓	✓	✗
Model Training	✓	✗	✓	✓
Prediction	✗	✓	✗	✓

87%

Healthcare Recommender System works
with 87% accuracy rate !





**HEALTHCARE RECOMMENDER
ENGINE**

Visit our website

You can visit the GitHub for
real-time project testing

Thanks!

Do you have any questions?

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