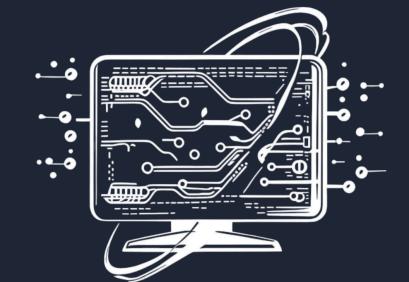
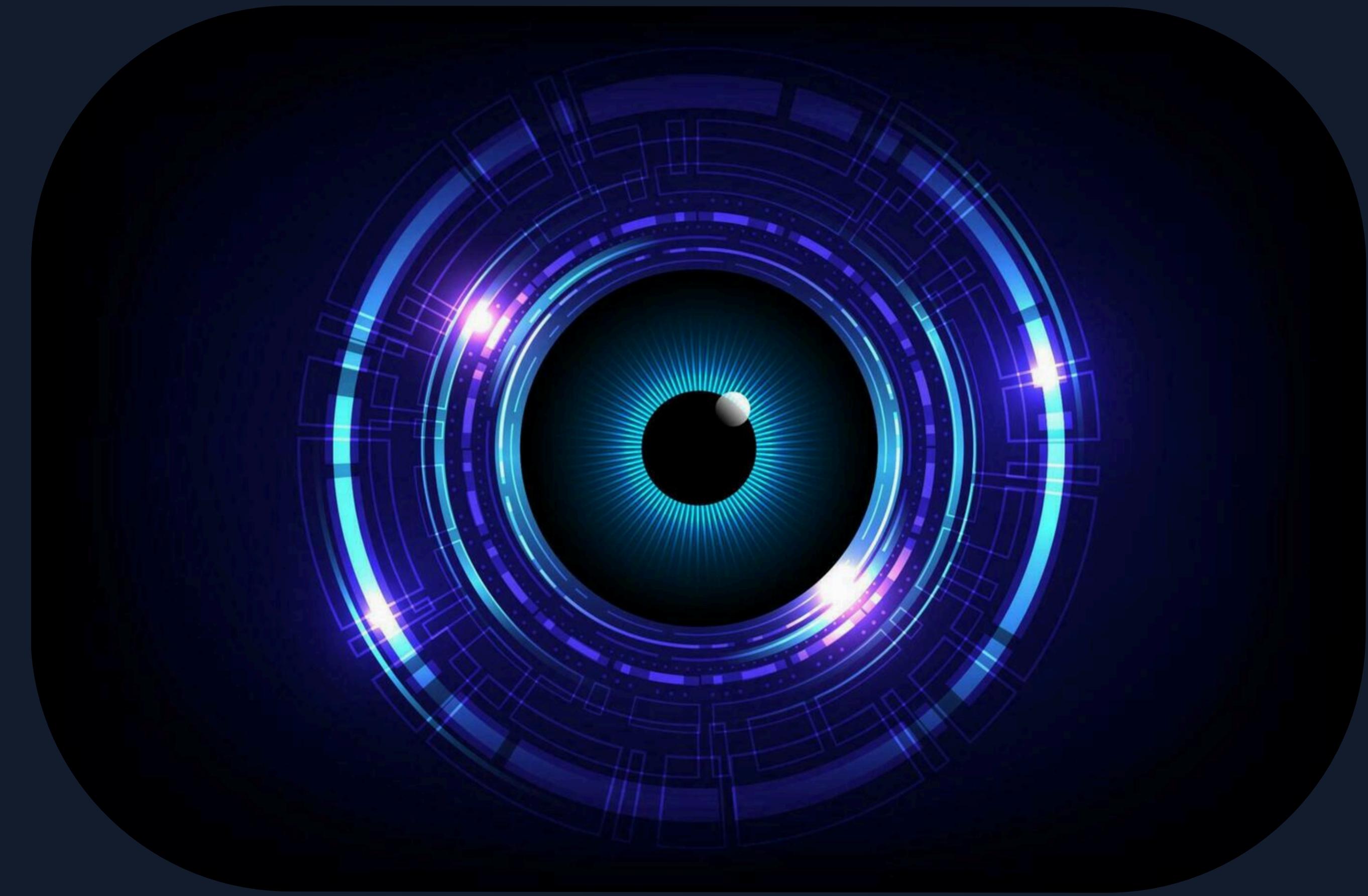


# Trippers (AG21)

AGGLOMERATION 1.0 Problem Statement

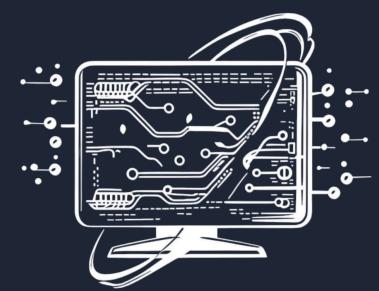


AGGLOMERATION  
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# **Problem Statement:**

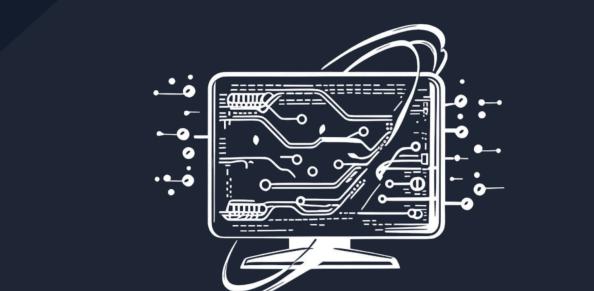
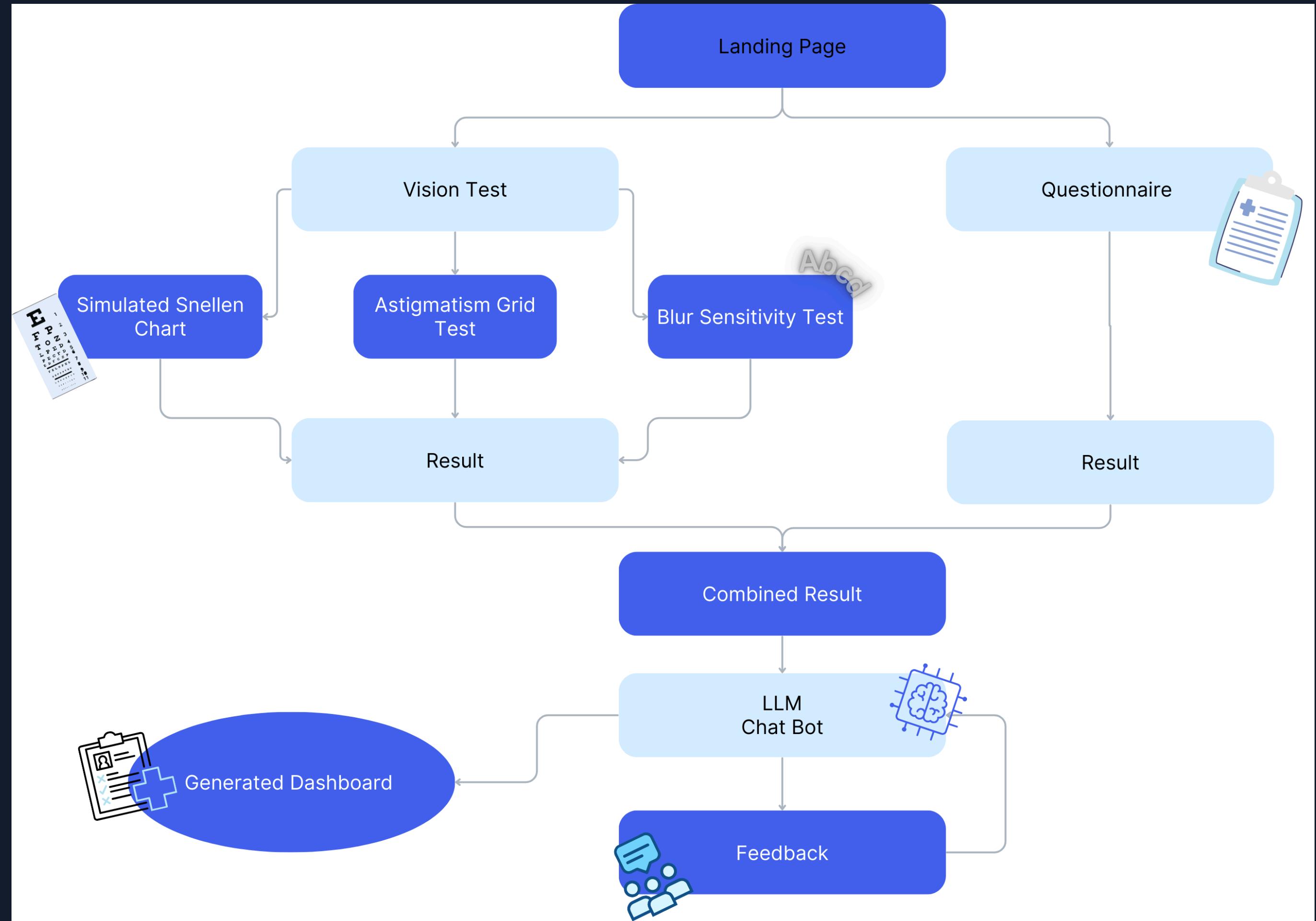
## **Clear Horizons – Personalized Myopia Risk Profiler**

- Developed a web platform with interactive digital vision tests (Snellen chart, astigmatism grid, blur sensitivity test).
- Integrate lifestyle data collection and a machine learning model to predict myopia risk with clear risk scores.
- Provide personalized recommendations and a user feedback mechanism to refine suggestions and reduce myopia risk.



**AGGLOMERATION**  
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# Project Workflow



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# User-friendly UI

The screenshot shows the HealthChat AI-powered healthcare chat interface. At the top left is the logo "Heart HealthChat". Below it is a dark banner with the text "AI-Powered Healthcare". The main title "Your Personal Health Assistant" is displayed prominently in large white font. A subtitle below it reads "Get instant medical guidance and support through our AI-powered healthcare chat". Three buttons are visible: "Secure & Private" with a shield icon, "24/7 Support" with a heart rate monitor icon, and "Smart AI" with a star icon. A central input form is shown with fields for "Full Name" containing "John Doe" and "Email" containing "john@example.com". At the bottom of this form are two red buttons: "Vision Test" and "AI Consultation".



AGGLOMERATION  
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# Digital Vision Testing

- Simulated Snellen Chart

HealthCare X

Manav Sharma

AI Bot

Myopia Detection

Vision Test

Dashboard

Light mode

Github

Simulated Snellen Chart Step 2 of 5

**Simulated Snellen Chart**

Adjust the viewing distance and try to read the letters. For each line, indicate whether you could read it correctly.

**Viewing Distance (feet): 6 ft**

Adjust the slider to match your actual distance from the screen. Ensure it's measured accurately.

E  Read correctly

O D  Read correctly

L V V  Read correctly

R E Z T  Read correctly

N R V R R  Read correctly

K C D L S L  Read correctly

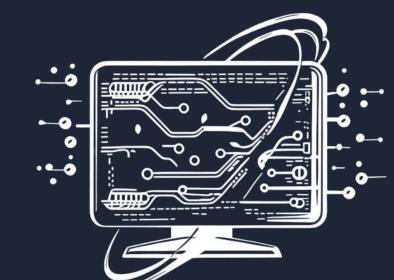
S O D Z K R O  Read correctly

R O T V D F F D  Read correctly

D L C S V N C T H  Read correctly

F N A C H E M D  Read correctly

N E X T



AGGLOMERATION  
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# Digital Vision Testing

- Astigmatism Grid Test

HealthCare X

Manav Sharma

AI Bot

Myopia Detection

Vision Test

Dashboard

Light mode

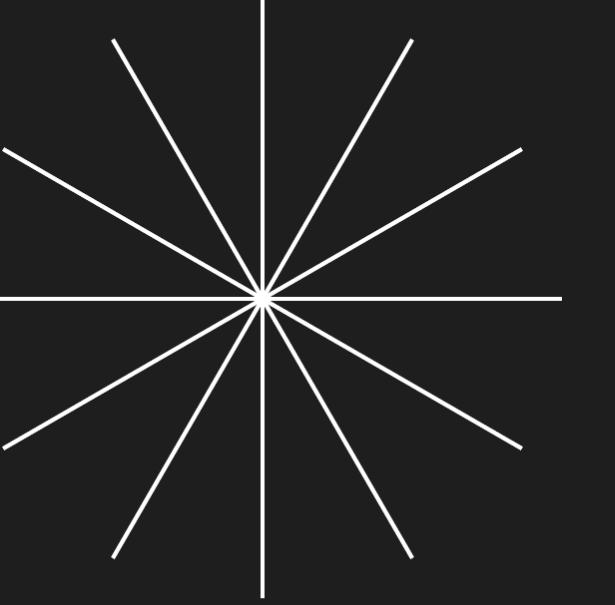
Github

Astigmatism Grid Test Step 3 of 5

**Astigmatism Test**

Look at the charts below. For each chart, click on any lines or areas that appear **blurry**, **distorted**, or different from the others.

**Astigmatic Dial**



Click on any lines that appear **blurry** or **less sharp** than others.

**Siemens Star**

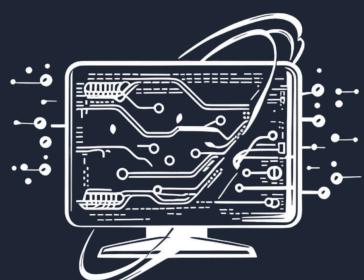




# Digital Vision Testing

- Blur Sensitivity Test

The screenshot shows a mobile application interface for a digital vision test. At the top left is a navigation bar with icons for HealthCare, a user profile (Manav Sharma), and a close button (X). Below the navigation bar, there's a sidebar with links: Myopia Detection, Vision Test, Dashboard, and Light mode (selected). The main content area is titled "Blur Sensitivity Test" and indicates "Step 4 of 5". It contains three sliders for adjusting settings: "Adjust Blur Level" (0.0 px), "Adjust Contrast Level" (100%), and "Adjust Text Size" (24px). Below the sliders is a line of text: "The quick brown fox jumps over the lazy dog.". A dropdown menu titled "How does the text appear to you?" with the placeholder "Select an option" is shown. At the bottom, a note states: "Note: This test provides an estimate and does not replace a professional eye examination. For accurate results and eye health assessment, please consult an eye care professional." A "VIEW RESULTS" button is at the very bottom.



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# Lifestyle Data Collection

HealthCare X Step 1 of 3

Manav Sharma

AI Bot

Myopia Detection

Vision Test

Dashboard

### Demographics and Parental History

Please provide your demographic information and parental myopia history. (If some details are not available just write NA)

Age at First Visit

Enter Age

Gender

Select Gender

Is your mother myopic?

No

Is your father myopic?

No

NEXT

Light mode

Github



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# Myopia Risk Scoring and Predictive Model

HealthCare X

Manav Sharma

AI Bot

Myopia Detection

Vision Test

Dashboard

Light mode

Github

Manav Sharma

## Vision Health Dashboard

Test Results Summary

### Myopia Risk Assessment

Probability Score: 30.0%

Low Risk

#### Vision Test Results

Snellen Test: Your estimated visual acuity is 20/20

Astigmatism: Possible signs of astigmatism detected.

Blur Test: Your sensitivity to blur seems normal.

#### Daily Activities (Hours)

Reading: 19 Computer: 19

TV: 191 Study: 19

#### Personal Information

Age: 18 Mother Myopic: Yes SPHEQ: 100

Gender: Male Father Myopic: Yes AL: 100

# Medical Chatbot

HealthCare X

Manav Sharma

Clear chat

AI Bot

Myopia Detection

Vision Test

Dashboard

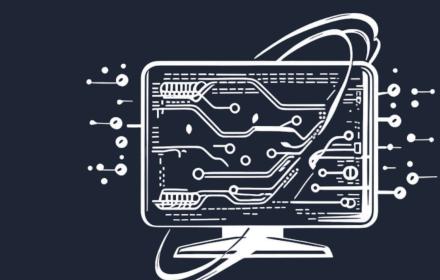
Light mode

Github

Enter symptoms ➤

**How to use**

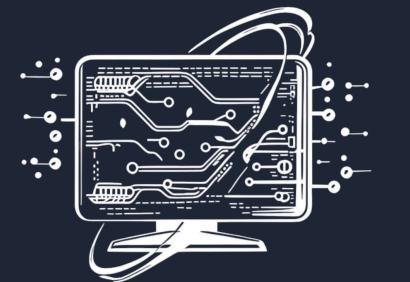
Welcome to our Health Care Chatbot! Simply enter your symptoms in the chat box, and our intelligent assistant will provide possible diagnoses and helpful information. Please note, this tool is for informational purposes and not a substitute for professional medical advice. For serious concerns, consult a healthcare provider. We're here to assist you 24/7.



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# Personalized Recommendations

- Screen Time Management
  - Reduce screen time by 5 hours per week. Use the 20-20-20 rule.
- Outdoor Activity
  - Increase outdoor activity by 2 hours per week
- Reading Habits
  - Maintain proper reading distance (30-40cm) and take regular breaks every 30 minutes.



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# User Interaction and Feedback Loop

 HealthCare X

manav

I am a college kid with 7 hours of screen time a day. My mom and dad both had myopia. I too have it.  
Suggest measures to improve it.

Today at 11:03 PM 

 Clear chat

AI Bot

Myopia Detection

Vision Test

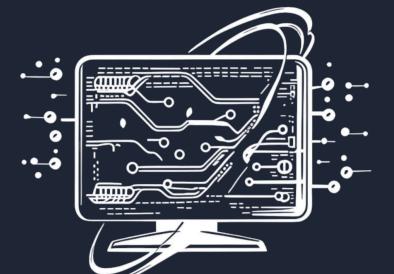
Dashboard

 Light mode

 Github

Enter symptoms 

assistant, I'm not a medical professional, but I can provide you with some general information on myopia and measures to improve it. Please consult a healthcare professional for personalized advice.  
Myopia, also known as nearsightedness, is a common vision disorder where close objects are seen clearly, but distant objects appear blurry due to the shape of the cornea and lens of the eye. Since myopia runs in your family, you are at a higher risk of developing it. However, there are steps you can take to reduce the progression of myopia:  
**Limit Screen Time:** While you're already aware of the importance of limiting screen time, it's crucial to stick to it. Try to engage in outdoor activities or other hobbies that don't involve screens for at least 2 hours a day.  
**Outdoor Activities:** Spending time outdoors can help reduce the risk of myopia progression. Try to engage in outdoor activities like sports, hiking, or simply playing with friends in a park.  
**Eye Exercises:** There is limited scientific evidence supporting the effectiveness of eye exercises in reducing myopia. However, exercises that involve focusing on distant objects and then switching to close objects may help improve eye coordination and reduce the risk of myopia progression.  
**Bifocal Glasses:** If you already wear glasses or contact lenses for myopia, consider bifocal glasses. Bifocals allow you to focus on both near and far objects without having to switch between different pairs of glasses.  
**Atropine:** Your eye doctor may recommend a medication called atropine to slow the progression of myopia. Atropine works by dilating the pupil, which helps the eye focus on distant objects.  
**Orthokeratology:** This is a non-surgical treatment that involves wearing a specialized contact lens at night. The lens gently reshapes the cornea to improve your vision without removing the lens during the day.  
**Vision Therapy:** This is a customized program of exercises created by an eye doctor to help improve eye function and reduce the risk of myopia progression.  
**Healthy Diet:** Eating a diet rich in fruits, vegetables, and omega-3 fatty acids may help reduce the risk of myopia. Omega-3 supplements may also be beneficial, but always consult with a healthcare professional before starting any new supplements.  
**Get Enough Sleep:** Sleep deprivation can exacerbate myopia. Ensure you get at least 7-8 hours of sleep each night.



# Deployment

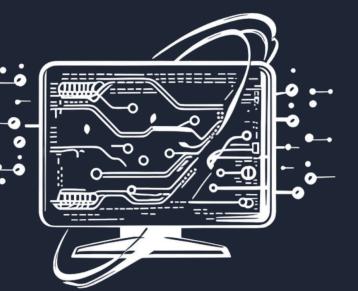


```
Public URL: NgrokTunnel: "https://7d6c-34-139-40-14.ngrok-free.app" -> "http://localhost:5000"  
* Serving Flask app '__main__'  
* Debug mode: off  
INFO:werkzeug:WARNING: This is a development server. Do not use it in a production deployment.  
* Running on http://127.0.0.1:5000  
INFO:werkzeug:Press CTRL+C to quit
```



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THANK  
YOU



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