

# DIGITAL TWIN HEALTH ASSISTANT

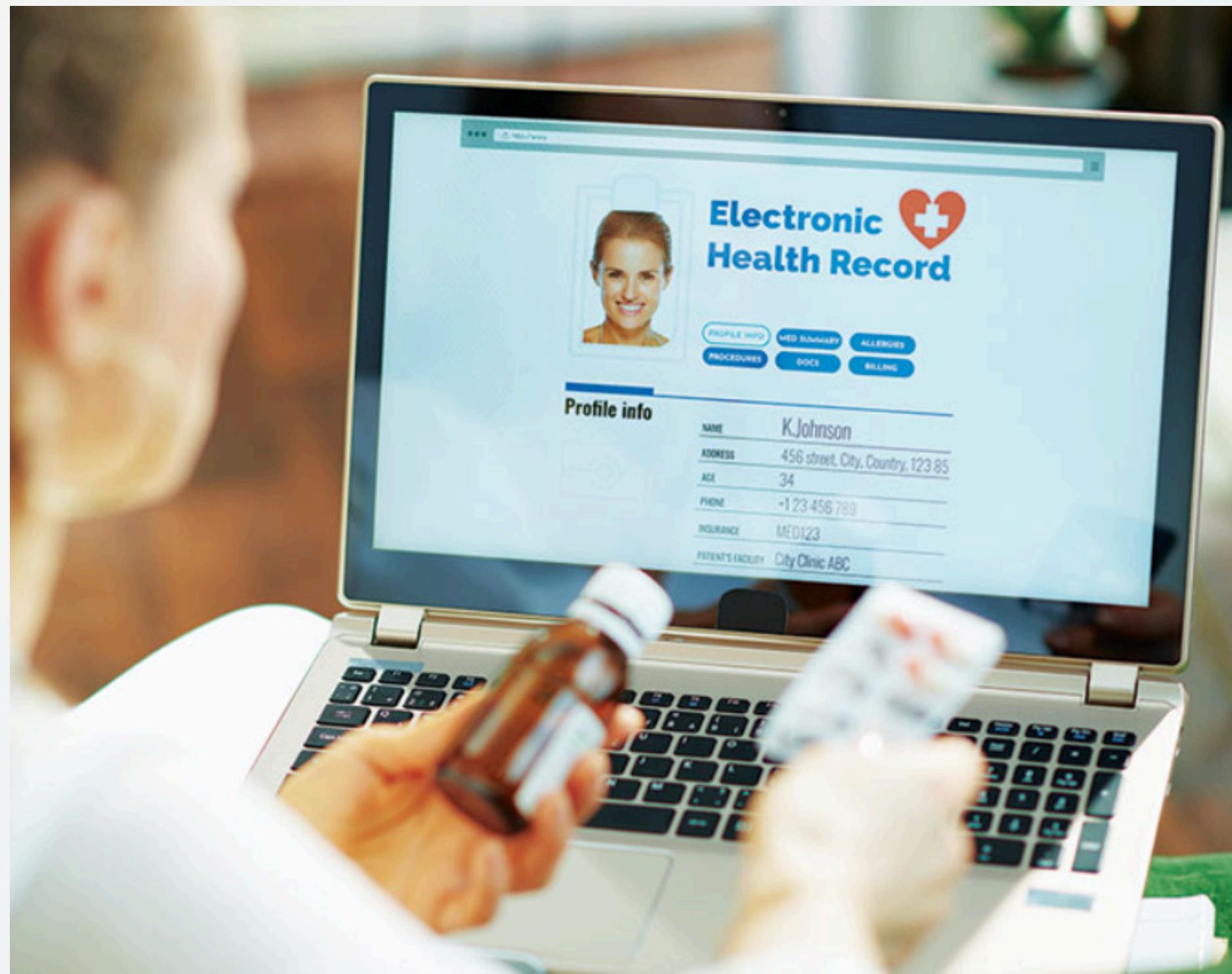
AI-Powered Personal Health  
Management

HEALTHCARE MEETS INNOVATION



# WHY THIS IDEA?

Team Genesis



## CHALLENGE

Complex medical reports are hard to understand.

## PAIN POINTS

- Medical jargon confusion
- Language barriers in healthcare
- Difficulty tracking health trends
- Limited access to personalized health insights

Facility Information		Patient Information		Specimen Information	
Facility Name: DIRECT		Name: MR. DUMMY TESTING		Accession No: S25000002	
Provider Name: SELF		DOB: 12/10/2000		Date Collected: 07/23/2025, 03:09 AM	
Address: --		Gender: Male		Date Received: 07/23/2025, 03:10 AM	
www.primedx.us		Phone Number: S25000002		Report Date: 07/23/2025, 03:11 AM	
Test Name		Result	Flag	Units	Reference Range/Cutoff

Numbers and medical jargon isn't everyone's cup of tea.



ASO					
ASO	22	N	IU/mL	<200	
<b>Complete Blood Count (CBC) Without Differential</b>					
White Blood Cell Count (WBC)	22	H	x10E3cells /uL	3.4 - 10.3	
Red Blood Cell Count (RBC)	32	H	x10E6cells /uL	3.56 - 5.49	
Hemoglobin (Hb)	12	N	g/dL	11.1 - 16.5	
Hematocrit	35	N			
Mean Corpuscular Volume (MCV)	-				
Mean Corpuscular Hemoglobin (MCH)	-				
Mean Corpuscular Hemoglobin Concentration (MCHC)	-				
Red Blood Cell Distribution Width (RDW)	11	L			
RDW- SD	30	L			
Platelet Count	130	BL	x10E3cells /uL	130 - 400	
MPV	7	N			
<b>Lipid Panel *</b>					
Triglycerides	10	N			

**AI Assistant** 15:02

Okay, here's a simplified explanation of your lab report, focusing on the key things to note:

**In Short:**

This report shows a few results that are slightly outside the normal ranges. Specifically, your White Blood Cell count (WBC) and Red Blood Cell count (RBC) are high, and your Platelet count is borderline low. Also, some of your red blood cell measurements (RDW and RDW-SD) are a bit low. Your other tests, including your cholesterol and triglycerides, appear to be within normal limits.

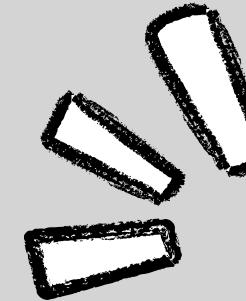
**Key Things to Remember:**

- High WBC and RBC:** Elevated white and red blood cell counts can be due to a variety of reasons, including infection, inflammation, or even dehydration.
- Borderline Low Platelets:** A slightly low platelet count could indicate a potential issue with blood clotting, but it's only borderline, so it might not be a major concern.
- Low RDW and RDW-SD:** These values relate to the variation in the size of your red blood cells. Low values are less common than high values and can sometimes be associated with certain types of anemia or other underlying conditions.

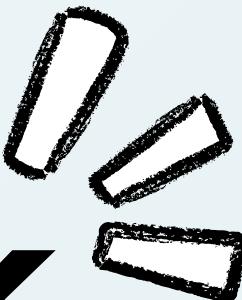
We would rather prefer:

- Concise points
- Crisp details
- Quicker understanding

# OUR SOLUTION



## DIGITAL TWIN TECHNOLOGY



### WHAT IT IS

AI-powered personal health avatar



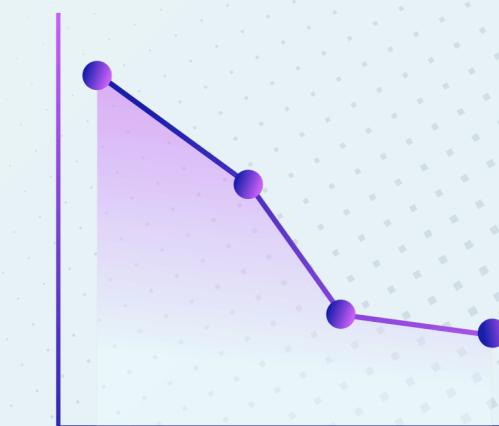
### HOW IT WORKS

Analyzes your medical data to create a virtual health profile



### BENEFITS

Personalized insights, trend analysis, health predictions



# KEY FEATURES

## Smart Report Analysis

OCR-powered medical document processing

## AI Health Chat

Google Gemini-powered medical conversations

## Health Trend Visualization

Interactive charts  
Progress tracking  
Understanding the needs

## Virtual Health Simulations

“What-if” health scenario modeling  
Identifying how you could improve stats

## HOW WE LEVERAGED AI?

- Natural Language Processing
- Document Intelligence
- Predictive Analytics
- Personalized Recommendations

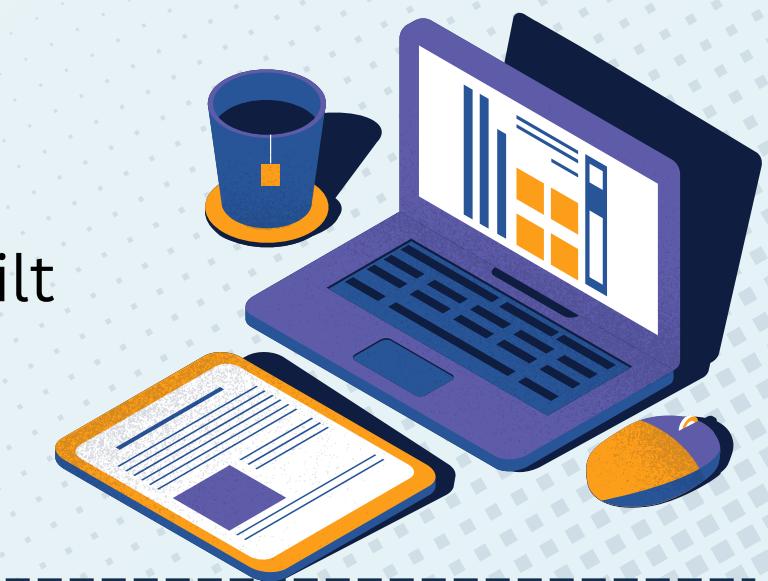


# LETS TALK TECH

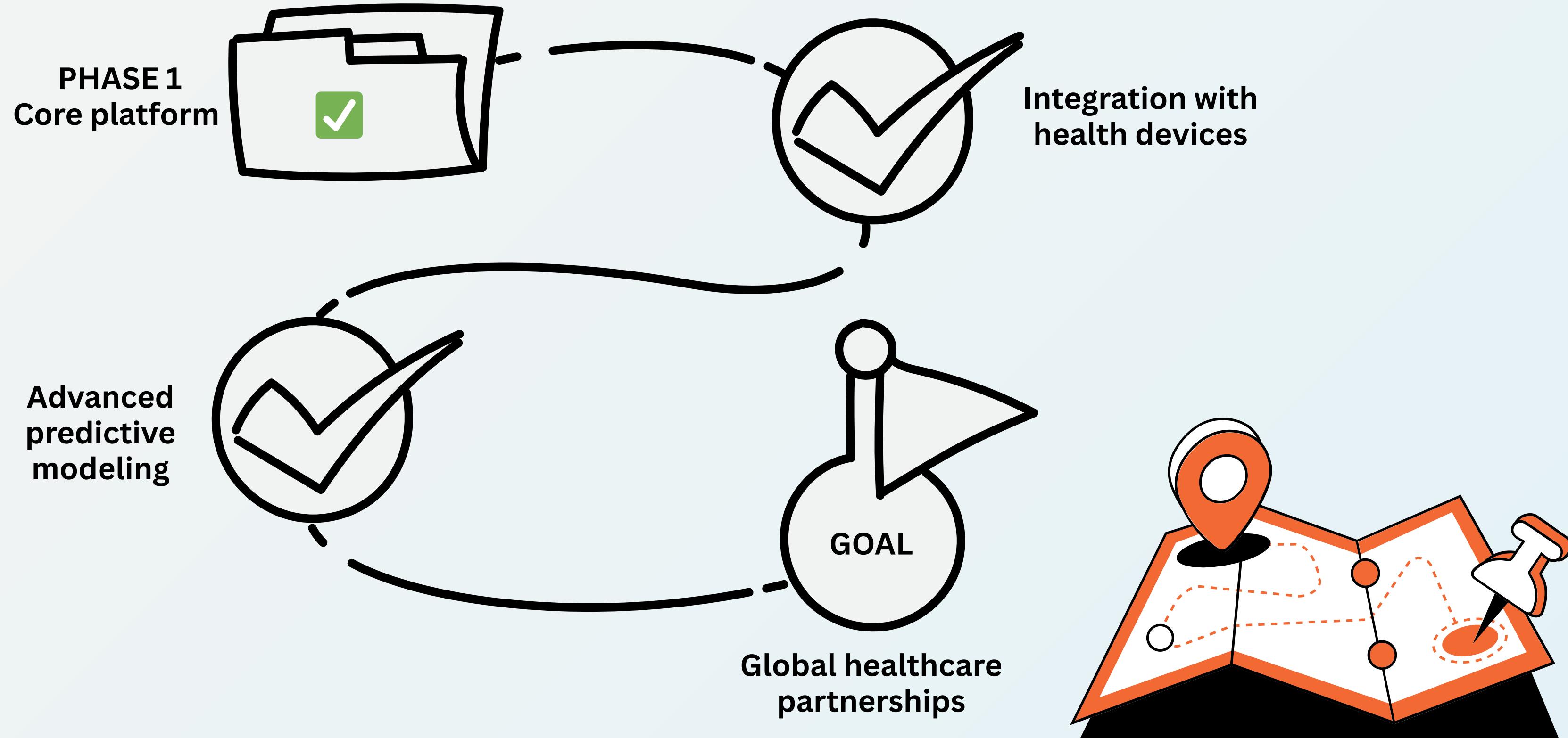
- **Frontend:** React 19 + TypeScript + Vite
- **Backend:** FastAPI + Python + SQLModel
- **AI/ML:** LangChain + Google Gemini + OCR
- **Database:** SQLite with SQLModel ORM
- **Security:** Malware scanning + Input validation
- **Visual:** Tech stack diagram with logos

# TALK TO IMPESS?

- **Advanced OCR** - Handles complex medical documents
- **Multi-language AI** - Context-aware language detection
- **Real-time Processing** - Instant health insights
- **Scalable Architecture** - Built for growth and reliability



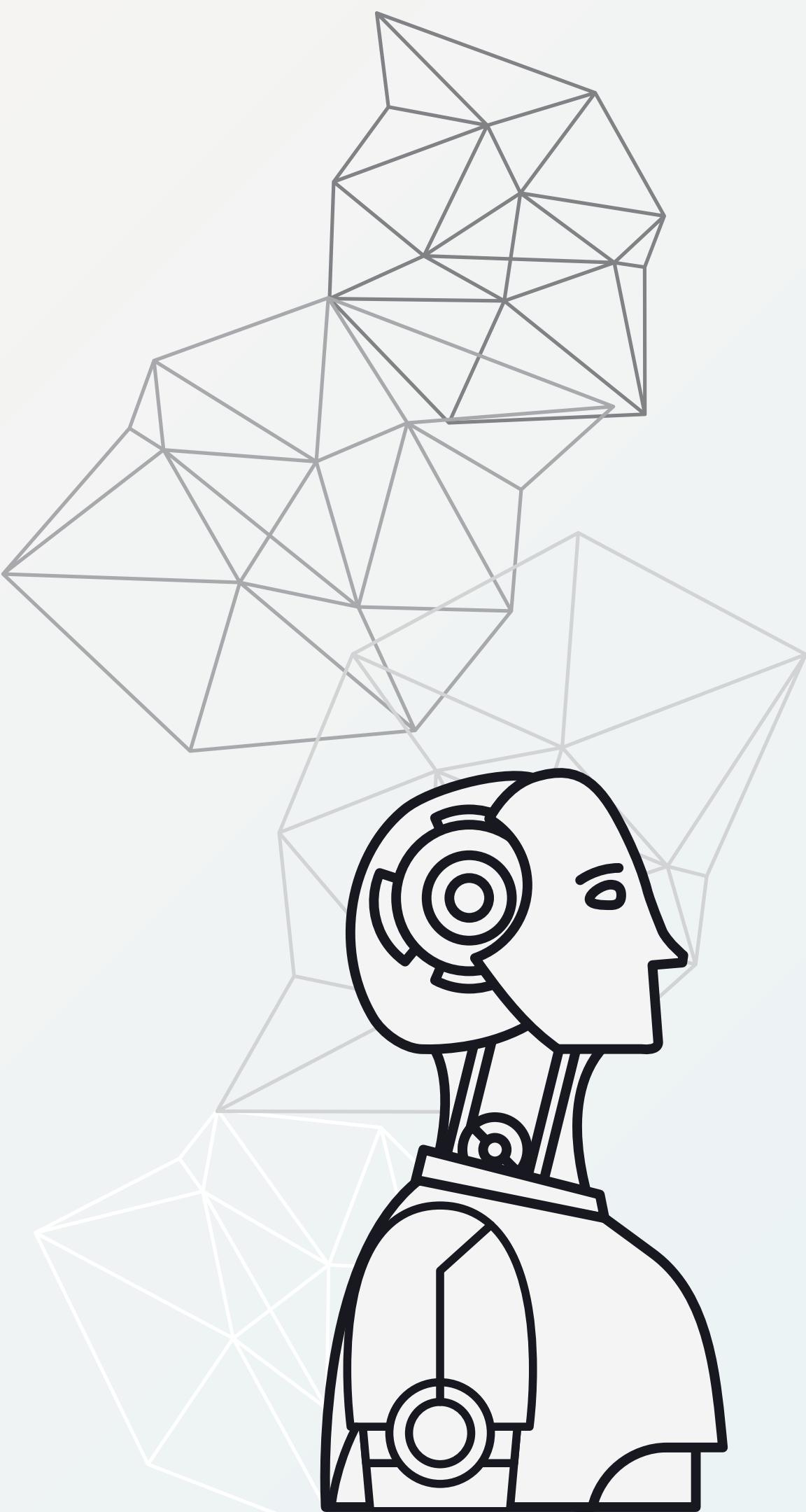
# FUTURE ROADMAP



# OTHER IDEAS EXPLORED

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1. Test recommendation bot
2. Lab Marketing Optimizer
3. LIMS and Patient Portal chatbot
4. Accessibility friendly lab reports
5. Resume and Recruitment Solutions



Genesis- It means beginners or originators of a new idea

# THANK YOU!

# GOT ANY QUESTIONS?

**Team Genesis thanks you for the opportunity!**

The brilliant contributors behind this:  
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Subham, Swati