CAPSTONE PROJECT

AGENTIC AI HEALTH SYMPTOM CHECKER

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OUTLINE

- Problem Statement
- Technology used
- Wow factor
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- Future scope
- IBM Certifications



PROBLEM STATEMENT

An Agentic AI Health Symptom Checker helps users understand their health conditions by analyzing symptoms and providing probable causes, preventive advice, and care recommendations. It retrieves verified medical data, symptom databases, and guidelines from trusted sources like WHO, government health portals, and medical journals. Users can input symptoms in natural language such as "I have a sore throat and fever," and the agent provides possible conditions, urgency level, home remedies, and when to consult a doctor. It supports multi-language interaction and avoids self-diagnosis risks by offering educational and referral-based suggestions. This Al-driven assistant promotes early detection, reduces misinformation, and empowers users to take informed health actions.



TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

IBM Cloud Object Storage

IBM Language Translator



IBM CLOUD SERVICES USED

IBM Cloud Watsonx Al Studio

IBM Cloud Watsonx Al runtime

IBM Cloud Agent Lab

IBM Granite foundation model

IBM Cloud Object Storage

IBM Language Translator



WOW FACTORS

Multilingual Understanding – Accepts symptoms in multiple languages and even mixed-language sentences.

Trusted Medical Data Sources – Uses WHO, CDC, and verified medical databases to ensure accuracy.

Symptom Clustering & Matching – Groups symptoms to suggest possible conditions with confidence scores.

Urgency Detection – Classifies cases as Self-care, Doctor visit, or Emergency.

Preventive Health Tips – Gives lifestyle and prevention advice alongside symptom results.

Voice & Chat Interaction – Works via voice input, chatbots, and messaging platforms.

Agentic Behavior – Auto-updates with latest medical guidelines and prompts follow-ups.

Privacy-First – End-to-end encrypted, no personal data stored without consent.

Adaptive Recommendations – Adjusts suggestions based on location, climate, and outbreaks.

IBM-Powered Reliability – Built on IBM Granite + IBM Cloud Lite for high security and scalability.



END USERS

General Public – Anyone wanting quick, reliable health guidance.

Rural & Remote Populations – People with limited access to healthcare facilities.

Elderly Individuals – Seniors needing simple, voice-assisted health checks.

Parents & Guardians – For monitoring children's health symptoms.

Chronic Disease Patients – To track symptoms and receive preventive tips.

Travelers & Expats – For quick medical guidance abroad in multiple languages.

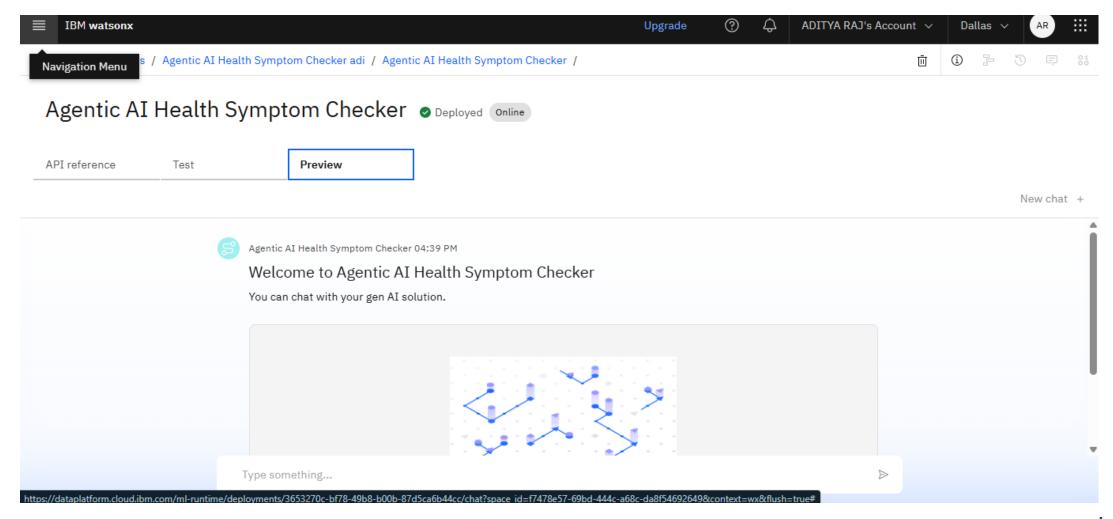
Students & Working Professionals – For fast symptom checks during busy schedules.

Telemedicine Users – For pre-consultation symptom analysis.

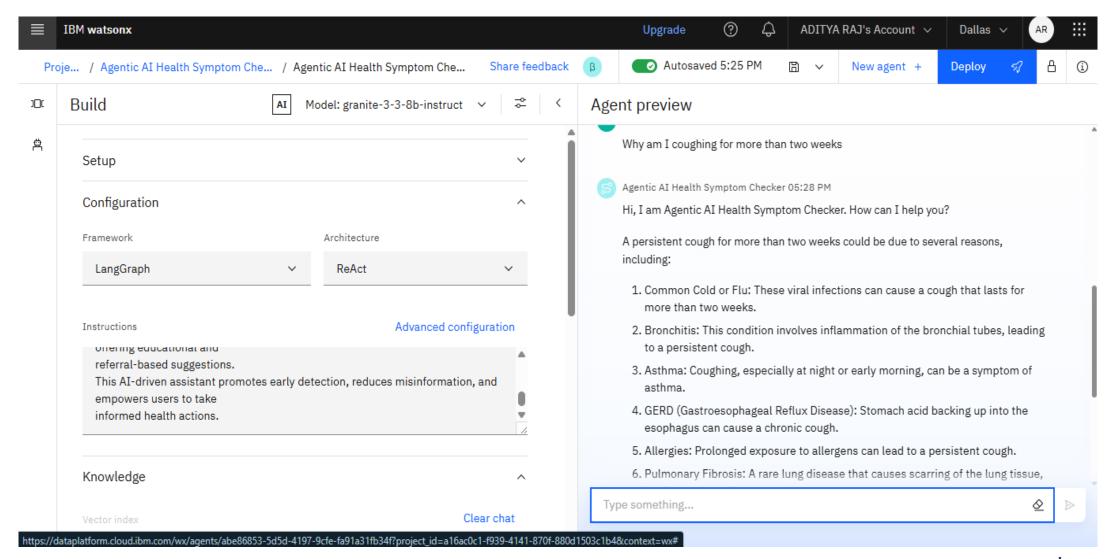
Pharmacy Customers – For over-the-counter guidance before purchase.

Caregivers & Social Workers – To assist vulnerable populations with basic health advice.

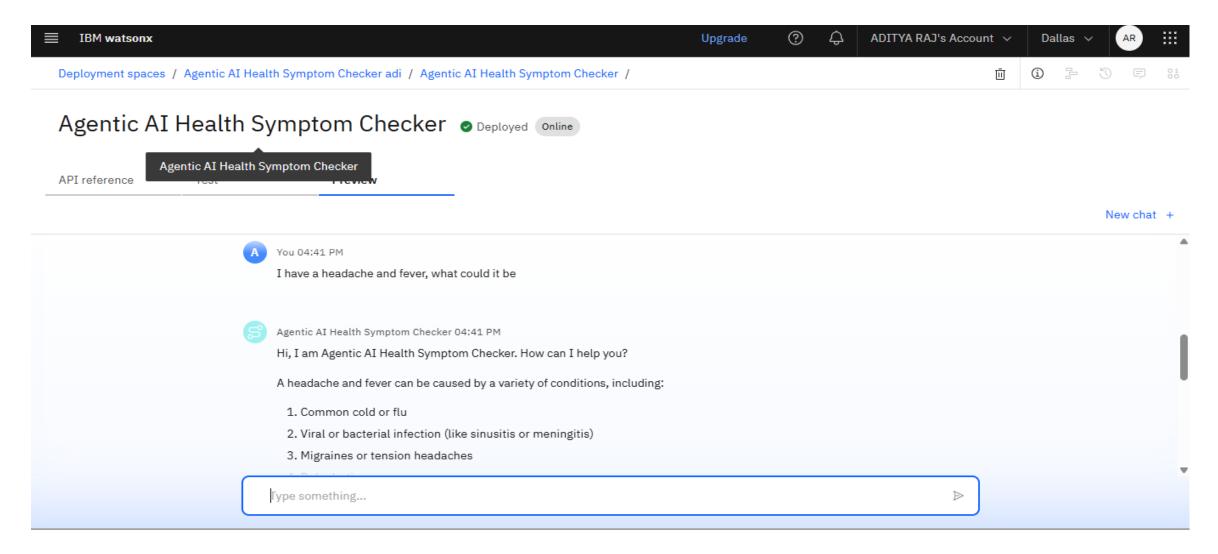






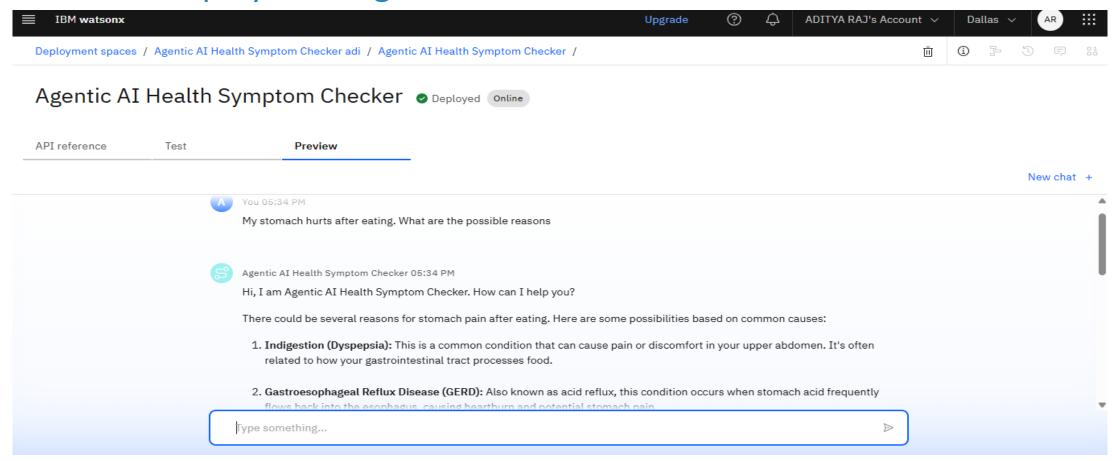




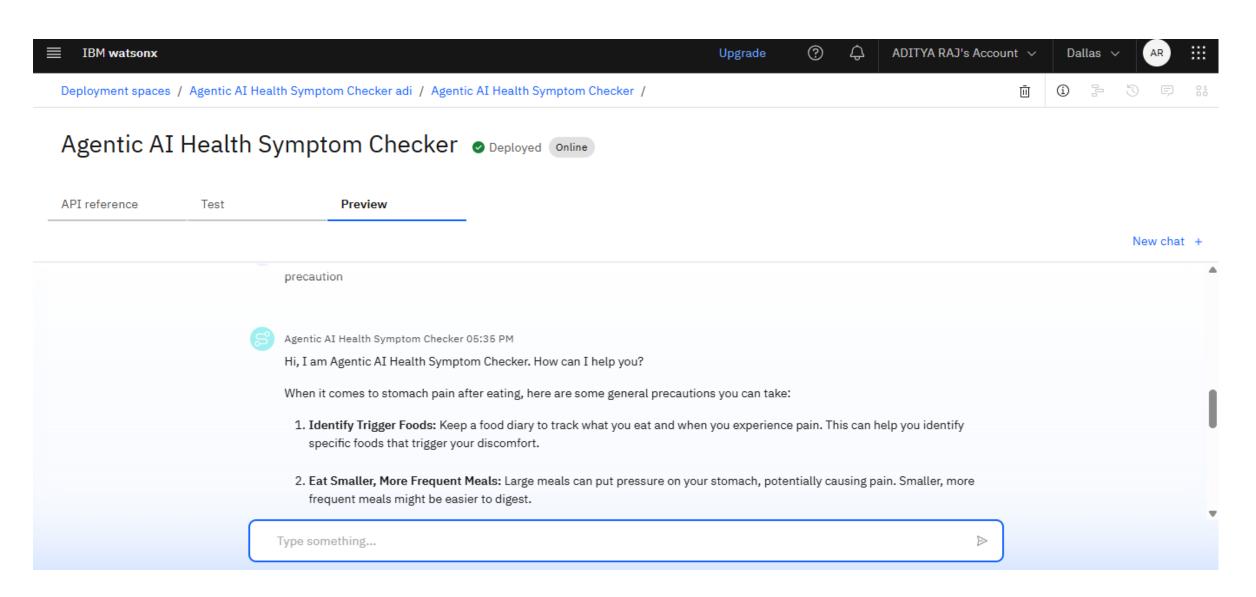




Deployed AI Agent









CONCLUSION

The **Agentic Al Health Symptom Checker** is a transformative digital health tool designed to bridge the gap between individuals and reliable healthcare information. By combining natural language processing, trusted medical databases, and multi-language support, it empowers users to understand their symptoms, take preventive measures, and make informed decisions about seeking professional care. Unlike traditional symptom checkers, its agentic capabilities allow it to actively guide users toward accurate resources, reduce misinformation, and promote early detection of potential health issues. This Alpowered solution has the potential to improve health literacy, reduce healthcare burdens, and make primary health guidance more accessible, personalized, and safe for people worldwide.



FUTURE SCOPE

Integration with Wearables – Connect with smartwatches, fitness bands, and IoT devices for real-time health data.

Advanced Predictive Analytics – Use AI to forecast potential health risks before symptoms appear.

Telemedicine Integration – Directly connect users with doctors via video or chat consultations.

Voice-Based Interaction – Enable hands-free symptom reporting for elderly and differently-abled users.

Personalized Health Recommendations – Tailor advice based on user history, lifestyle, and genetic data.

Multilingual & Regional Support – Expand to cover more languages and local dialects for inclusivity.

Mental Health Assistance – Incorporate stress, anxiety, and depression symptom tracking with guided help.

Emergency Response Integration – Auto-alert family or emergency services for critical health conditions. **Offline Mode** – Allow symptom checking in low or no-internet areas using cached medical data. **Global Health Data Contribution** – Share anonymized insights to help public health research and policymaking.



IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



ADITYA RAJ

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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RAG LAB certificate

8/3/25, 6:05 PM

Completion Certificate | SkillsBuild

IBM SkillsBuild

Completion Certificate



This certificate is presented to

Aditya Raj

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 03 Aug 2025 (GMT)

Learning hours: 20 mins



GITHUB LINK

Git hub lik: https://github.com/theaditya0810/Agentic-Al-Health-Symptom-Checker-



THANK YOU

