

---

# **CAPSTONE PROJECT**

## **AGENTIC AI HEALTH SYMPTOM CHECKER**

**Presented By:- ADITYA RAJ**

**College Name :- Government Engineering College ,Lakhisarai**

**Department :- Computer Science & Engineering with (Artificial Intelligent)**

# OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- 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 AI-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 AI Studio

IBM Cloud Watsonx AI 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.

# RESULTS

IBM watsonx

Upgrade

?

🔔

ADITYA RAJ's Account ▾

Dallas ▾

AR

⋮

Navigation Menu

/ Agentic AI Health Symptom Checker adi / Agentic AI Health Symptom Checker /

🗑️ ⓘ 📄 ⌚ 💬 ⚙️


## Agentic AI Health Symptom Checker ✔️ Deployed Online

API reference

Test


Preview


New chat +

 Agentic AI Health Symptom Checker 04:39 PM

Welcome to Agentic AI Health Symptom Checker

You can chat with your gen AI solution.



Type something... 

[https://dataplatform.cloud.ibm.com/ml-runtime/deployments/3653270c-bf78-49b8-b00b-87d5ca6b44cc/chat?space\\_id=f7478e57-69bd-444c-a68c-da8f54692649&context=wx&flush=true#](https://dataplatform.cloud.ibm.com/ml-runtime/deployments/3653270c-bf78-49b8-b00b-87d5ca6b44cc/chat?space_id=f7478e57-69bd-444c-a68c-da8f54692649&context=wx&flush=true#)



# RESULTS

IBM watsonx

Upgrade ⓘ 🔔 ADITYA RAJ's Account ▾ Dallas ▾ AR ⋮

Proje... / Agentic AI Health Symptom Che... / Agentic AI Health Symptom Che... [Share feedback](#) β Autosaved 5:25 PM 📁 ▾ [New agent](#) + [Deploy](#) 🔗 🔒 ⓘ

Build

AI Model: granite-3-3-8b-instruct ▾ 🔗 <

Setup ▾

Configuration ▴

Framework

LangGraph ▾

Architecture

ReAct ▾

Instructions

Offering educational and referral-based suggestions. This AI-driven assistant promotes early detection, reduces misinformation, and empowers users to take informed health actions.

[Advanced configuration](#)

Knowledge ▴

Vector index

[Clear chat](#)

Agent preview

Why am I coughing for more than two weeks

Agentic AI Health Symptom Checker 05:28 PM

Hi, I am Agentic AI Health Symptom Checker. How can I help you?

A persistent cough for more than two weeks could be due to several reasons, including:

1. Common Cold or Flu: These viral infections can cause a cough that lasts for more than two weeks.

2. Bronchitis: This condition involves inflammation of the bronchial tubes, leading to a persistent cough.

3. Asthma: Coughing, especially at night or early morning, can be a symptom of asthma.

4. GERD (Gastroesophageal Reflux Disease): Stomach acid backing up into the esophagus can cause a chronic cough.

5. Allergies: Prolonged exposure to allergens can lead to a persistent cough.

6. Pulmonary Fibrosis: A rare lung disease that causes scarring of the lung tissue,

Type something...

🔍 ▶

[https://dataplatform.cloud.ibm.com/wx/agents/abe86853-5d5d-4197-9cfe-fa91a31fb34f?project\\_id=a16ac0c1-f939-4141-870f-880d1503c1b4&context=wx#](https://dataplatform.cloud.ibm.com/wx/agents/abe86853-5d5d-4197-9cfe-fa91a31fb34f?project_id=a16ac0c1-f939-4141-870f-880d1503c1b4&context=wx#)

edunet  
foundation

# RESULTS

IBM watsonx

Upgrade



ADITYA RAJ's Account

Dallas

AR



Deployment spaces / Agentic AI Health Symptom Checker adi / Agentic AI Health Symptom Checker /



## Agentic AI Health Symptom Checker ✓ Deployed Online

API reference

Agentic AI Health Symptom Checker

Test

Preview

New chat +



You 04:41 PM

I have a headache and fever, what could it be



Agentic AI Health Symptom Checker 04:41 PM

Hi, I am Agentic AI Health Symptom Checker. How can I help you?

A headache and fever can be caused by a variety of conditions, including:


1. Common cold or flu
2. Viral or bacterial infection (like sinusitis or meningitis)
3. Migraines or tension headaches

Type something...



# RESULTS

## Deployed AI Agent

 IBM watsonx

Upgrade ? 🔔

ADITYA RAJ's Account ▾ Dallas ▾ AR ⋮


Deployment spaces / Agentic AI Health Symptom Checker adi / Agentic AI Health Symptom Checker /

🗑️ ⓘ 🔗 ⌛ 💬 👤


### Agentic AI Health Symptom Checker ✅ Deployed Online

API reference Test **Preview**

New chat +

 You 05:34 PM

My stomach hurts after eating. What are the possible reasons

 Agentic AI Health Symptom Checker 05:34 PM

Hi, I am Agentic AI Health Symptom Checker. How can I help you?

There could be several reasons for stomach pain after eating. Here are some possibilities based on common causes:

- 1. Indigestion (Dyspepsia):** This is a common condition that can cause pain or discomfort in your upper abdomen. It's often related to how your gastrointestinal tract processes food.
- 2. Gastroesophageal Reflux Disease (GERD):** Also known as acid reflux, this condition occurs when stomach acid frequently flows back into the esophagus, causing heartburn and potential stomach pain.

🔍



IBM watsonx

Upgrade



ADITYA RAJ's Account

Dallas

AR



[Deployment spaces](#) / [Agentic AI Health Symptom Checker adi](#) / [Agentic AI Health Symptom Checker](#) /



# Agentic AI Health Symptom Checker ✓ Deployed Online

API reference

Test

Preview

[New chat](#) +

precaution



Agentic AI Health Symptom Checker 05:35 PM

Hi, I am Agentic AI Health Symptom Checker. How can I help you?

When it comes to stomach pain after eating, here are some general precautions you can take:

1. **Identify Trigger Foods:** Keep a food diary to track what you eat and when you experience pain. This can help you identify specific foods that trigger your discomfort.
2. **Eat Smaller, More Frequent Meals:** Large meals can put pressure on your stomach, potentially causing pain. Smaller, more frequent meals might be easier to digest.

Type something...



---

## CONCLUSION

The **Agentic AI 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 AI-powered 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 policy-making.

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## ADITYA RAJ

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



Issued on: Aug 03, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/3a7ab139-16df-4758-95cf-e6557757bd87>



In recognition of the commitment to achieve  
professional excellence



ADITYA RAJ

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Aug 03, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/8ed44b89-8963-42de-936e-24b189d6058e>





## RAG LAB certificate



---

## GITHUB LINK

Git hub link : <https://github.com/theaditya0810/Agentic-AI-Health-Symptom-Checker->



**THANK YOU**