
IBM HACKATHON PROJECT

AGENTIC AI HEALTH SYMPTOM CHECKER

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OUTLINE

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- Git-hub Link
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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.

Proposed Solution:
An AI Research Agent that uses Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), to assist users in conducting efficient literature reviews, generating summaries, identifying research gaps, and recommending relevant papers, datasets, or collaborators.

PROPOSED SOLUTION

- The **Agentic AI Health Symptom Checker** serves as an intelligent, user-friendly health assistant that bridges the gap between symptom awareness and informed medical action. By leveraging verified medical databases, multilingual support, and natural language understanding, it empowers users to better understand their symptoms without resorting to risky self-diagnosis. Its core value lies in **early detection, misinformation reduction, and timely medical guidance**, helping users take responsible steps toward their well-being. Ultimately, this AI solution enhances public health literacy and access to care while encouraging safe, informed health decisions.

TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

WOW FACTORS

This agent will significantly reduce research time, improve the quality of literature reviews, help early-stage researchers find direction, and foster interdisciplinary collaboration by making knowledge more accessible and actionable.

Unique features:

Semantic search across research papers, journals, and datasets

Auto-summarization of selected papers

Citation and reference analysis to trace influence

Recommendation of research papers based on a user's current topic

Trend analysis over time for specific keywords or domains.

Collaboration mapping: suggests potential co-authors or institutions based on similar research interests.

END USERS

- Academic Researchers
- Research Institutions and Universities
- Industry R&D Teams
- Educators

RESULTS

← ↻ https://eu-gb.dataplatform.cloud.ibm.com/wx/agents/541a29b9-9fcf-4f16-8c0f-e2fc6c387a3d?project_id=78b184fb-1f80-43f2-ad00-3c2319ef39b4&context=wx

IBM watsonx Upgrade ? 🔔 Akshada Kadam's Account London AK

Projects / Health Symptom Checker / Health Symptom Checker Agent Share feedback β New agent + Deploy

Build

AI Model: llama-3-3-70b-instruct

Setup Configuration

Framework: LangGraph Architecture: ReAct

Instructions Advanced configuration

You are a responsible and knowledgeable AI Health Symptom Checker.

Your role is to help users understand their health-related symptoms by providing:

1. Possible General causes of the symptoms (not a diagnosis)
2. Urgency level (Low, Medium, High)

Knowledge Tools

Add a tool Create custom tool

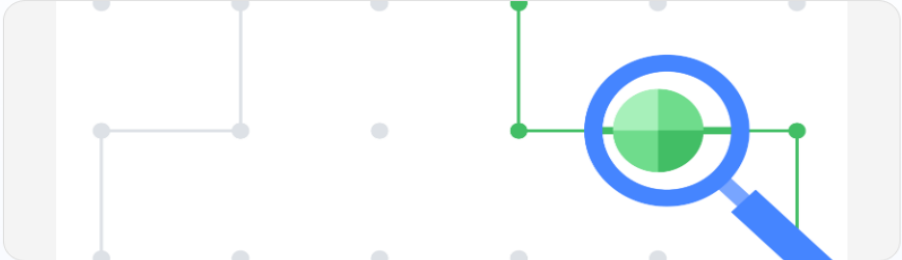
Added tools (5)

Agent preview

Health Symptom Checker Agent 11:56 PM

Welcome to Health Symptom Checker Agent

Hii I am your AI Health Symptom Checker.



Type something...

RESULTS

The screenshot displays the IBM Watsonx interface for configuring and previewing an AI agent. The browser address bar shows the URL: https://eu-gb.dataplatform.cloud.ibm.com/wx/agents/541a29b9-9fcf-4f16-8c0f-e2fc6c387a3d?project_id=78b184fb-1f80-43f2-ad00-3c2319ef39b4&context=wx.

The top navigation bar includes the IBM Watsonx logo, an Upgrade button, a help icon, a notification bell, the user account (Akshada Kadam's Account), location (London), and a profile icon (AK).

The main breadcrumb trail is: Projects / Health Symptom Checker / Health Symptom Checker Agent. Action buttons include Share feedback, a beta flag, a dropdown menu, New agent +, and Deploy.

The interface is split into two main sections:

- Build:** Contains configuration options for the agent.
 - Model:** llama-3-3-70b-instruct
 - Framework:** LangGraph
 - Architecture:** ReAct
 - Instructions:** A text area containing the agent's role and tasks:

You are a responsible and knowledgeable AI Health Symptom Checker.

Your role is to help users understand their health-related symptoms by providing:

 1. Possible General causes of the symptoms (not a diagnosis)
 2. Urgency level (Low, Medium, High)
 - Knowledge:** A section for adding knowledge.
 - Tools:** Includes buttons for "Add a tool" and "Create custom tool".
 - Added tools (5):** A list of tools, with "Google search" partially visible.
- Agent preview:** Shows a simulated conversation.
 - User:** "You: 11:38 PM" with the input "symptoms of fever".
 - Health Symptom Checker Agent:** Responds with:

Possible Causes: Fever can be caused by a variety of factors, including infections, viruses, and medications. Some common causes of fever include:

 - Infections such as pneumonia, meningitis, or urinary tract infections
 - Viral illnesses such as the flu or mononucleosis
 - Medications such as antibiotics or blood pressure medications
 - Immunizations such as the flu vaccine

Urgency Level: The urgency level of a fever depends on the severity of the symptoms and the underlying cause. If the fever is mild (less than 102°F) and the person is otherwise healthy, it may not be necessary to seek medical attention. However, if the fever is high (over 103°F), or if the person has a weakened immune system, is elderly, or has a chronic medical condition, it is important to seek medical attention.

Advice: If you have a fever, it is important to stay hydrated by drinking plenty of fluids, such as water or electrolyte-rich beverages like sports drinks. You can also take over-the-counter medications such as acetaminophen or ibuprofen to help reduce the fever. It is also important to rest and avoid strenuous activities until the fever has resolved.

At the bottom of the Agent preview, there is a text input field with the placeholder "Type something..." and a send button.

RESULTS

← ↻ 🔒 https://eu-gb.dataplatform.cloud.ibm.com/ml-runtime/spaces?context=wx

🔊 ☆ 🎵 ⚙️ 👤 ⋮ 🌈

☰ IBM watsonx

Upgrade ? 🔔

Akshada Kadam's Account ▾

London ▾

AK ⋮

Deployments

1 space

New deployment space +

Activity

Spaces

Filter by: All spaces ▾ 🔍 Which deployment space are you looking for?

Name	Last modified ▾	Your role	Collaborators	Tags	Type	Online deployments	Jobs	
Health_Symptom Checker	Aug 4, 2025, 10:19 AM	Admin	AK		Development	1	0	⋮

Items per page: 20 ▾

1-1 of 1 items

1 ▾ 1 of 1 pages

◀ ▶

RESULTS

The screenshot shows a web browser window with the URL `https://eu-gb.dataplatform.cloud.ibm.com/ml-runtime/deployments/2b6472d0-8b8c-4f54-8749-feb94a9174b2/chat?space_id=6cd486da-f270-4267-9fb7-575f0c296b15&context=wx&flu...`. The page header includes the IBM Watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Akshada Kadam's Account' in 'London'. The breadcrumb trail is 'Deployment spaces / Health_Symptom Checker / Sous Chef /'. The main content area shows a chat interface for 'Sous Chef', which is 'Deployed' and 'Online'. There are three tabs: 'API reference', 'Test', and 'Preview', with 'Preview' being the active tab. A 'New chat +' button is in the top right. The chat history shows a user asking for 'symptoms of Typhoid' at 11:45 PM, and the 'Sous Chef' bot responding at the same time with a list of symptoms: High fever, Stomach pain, Rash, Cough, Muscle aches, Weakness, and Headache. At the bottom, there is a text input field with the placeholder 'Type something...' and a send button.

Deployment spaces / Health_Symptom Checker / Sous Chef /

Sous Chef ✓ Deployed Online

API reference Test **Preview**

New chat +

A You 11:45 PM
symptoms of Typhoid

B Sous Chef 11:45 PM
The symptoms of Typhoid include:

- High fever
- Stomach pain
- Rash
- Cough
- Muscle aches
- Weakness
- Headache

Type something...

RESULTS

The screenshot displays the IBM watsonx web interface. The browser address bar shows the URL: `https://eu-gb.dataplatform.cloud.ibm.com/projects/78b184fb-1f80-43f2-ad00-3c2319ef39b4/manage/services?context=wx`. The interface includes a top navigation bar with the 'IBM watsonx' logo, an 'Upgrade' button, and user account information for 'Akshada Kadam's Account' in the 'London' region. Below this, a breadcrumb trail indicates the current location: 'Projects / Health Symptom Checker'. A secondary navigation bar contains tabs for 'Overview', 'Assets', 'Deployments', 'Jobs', and 'Manage', with 'Manage' being the active tab. On the left, a sidebar menu lists various project management options, with 'Services & integrations' selected. The main content area is titled 'Services & integrations' and features two tabs: 'IBM services (1)' and 'Third-party integrations'. The 'IBM services (1)' tab is active, showing a description: 'Associate IBM Cloud services with this project to add tools, compute environments, or other capabilities. [Learn more.](#)'. Below the description is a search bar labeled 'Find services' and a blue 'Associate service +' button. A table lists the associated services:

<input type="checkbox"/>	Name	Service type
<input type="checkbox"/>	watsonx.ai Runtime-zh	watsonx.ai Runtime

RESULTS

The screenshot shows the IBM Watsonx interface for a deployment named 'Sous Chef'. The deployment is in a 'Deployed' state and is 'Online'. The page is divided into three tabs: 'API reference', 'Test', and 'Preview'. The 'API reference' tab is active, showing 'Endpoints for inferencing'. There are two sections: 'Private endpoint' and 'Public endpoint', each with two example URLs. A 'Bearer <token>' field is also present. Below the endpoints, there is a link to 'Learn more about the 2021-05-01 version query parameter'. At the bottom, there is a 'Code snippets' section with tabs for 'cURL', 'Java', 'JavaScript', 'Python', and 'Scala'. On the right side, a sidebar titled 'About this deployment' provides details: Name (Sous Chef), Description (Generating tasty recipe ideas based on the ingredients they have available.), Deployment Details (Deployment ID: 2b6472d0-8b8c-4f54-8749-feb94a9174b2, Serving name: No serving name, Software specification: runtime-24.1-py3.11, Hardware specification: Extra extra small: 1 CPU and 2 GB RAM, Copies: 1), Tags (wx-agent), and Associated asset (Sous Chef, 2b968f35-3534-46b3-9137-470e75719e07).

IBM watsonx Upgrade ? Akshada Kadam's Account London AK

Deployment spaces / Health_Symptom Checker / Sous Chef /

Sous Chef ✓ Deployed Online

API reference Test Preview

Endpoints for inferencing ⓘ

Private endpoint

https://eu-gb.ml.cloud.ibm.com/ml/v4/deployments/2b6472d0-8b8c-4f54-8749-feb94a9174b2/ai_service?version=2021-05-01

https://eu-gb.ml.cloud.ibm.com/ml/v4/deployments/2b6472d0-8b8c-4f54-8749-feb94a9174b2/ai_service_stirring?version=2021-05-01

Public endpoint

https://eu-gb.ml.cloud.ibm.com/ml/v4/deployments/2b6472d0-8b8c-4f54-8749-feb94a9174b2/ai_service?version=2021-05-01

https://eu-gb.ml.cloud.ibm.com/ml/v4/deployments/2b6472d0-8b8c-4f54-8749-feb94a9174b2/ai_service_stirring?version=2021-05-01

[Learn more](#) about the 2021-05-01 version query parameter

Code snippets

cURL	Java	JavaScript	Python	Scala
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About this deployment

Name
Sous Chef

Description
Generating tasty recipe ideas based on the ingredients they have available.

Deployment Details
Deployment ID: 2b6472d0-8b8c-4f54-8749-feb94a9174b2
Serving name: No serving name.
Software specification: runtime-24.1-py3.11
Hardware specification: Extra extra small: 1 CPU and 2 GB RAM
Copies: 1

Tags
wx-agent

Associated asset
[Sous Chef](#)
2b968f35-3534-46b3-9137-470e75719e07

CONCLUSION

- The agent can generate reports, suggest hypotheses, and even draft sections of research papers.
- It saves time by automating repetitive tasks like citation management and data extraction.
- Research Agents enhance efficiency, accuracy, and innovation in both academic and industrial R&D.

GITHUB LINK

- <https://github.com/Akshada262/Health-Symptom-Checker>

FUTURE SCOPE

- Integration with Wearables & IoT Devices:
- Personalized Health Profiles
- AI-Powered Diagnostics
- Mental Health & Chronic Disease Modules
- Insurance and Health Record Integration

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Akshada Kadam

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 19, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/36a63717-c884-4325-b9e9-8b84854e76eb>



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Akshada Kadam

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins



THANK YOU