
IBM AICTE PROJECT

HEALTH SYMPTOM CHECKER AGENT

HealthGuardian AI

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OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

PROBLEM STATEMENT

Individuals often face difficulties in understanding their health symptoms, especially when access to healthcare professionals is limited, expensive, or delayed. The abundance of unreliable health information online increases the risk of self-diagnosis and misinformation, potentially leading to harmful decisions. Additionally, language barriers and lack of medical literacy further hinder effective symptom interpretation and timely medical intervention.

Proposed Solution:

An **AI-powered Symptom Checker** that uses NLP and verified medical sources to analyze user-input symptoms in natural language. It provides possible conditions, urgency levels, home care tips, and referral guidance—supporting multiple languages and promoting informed, safe health decisions without enabling self-diagnosis.

TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite (via Watsonx.ai)

PDF files uploaded to Watson Discovery for indexing and retrieval

Framework such as - LangGraph

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 – for managing PDF data uploads
- Watsonx Vector Index

WOW FACTORS

- **Empowers users** to make informed health decisions without encouraging self-diagnosis.
- **Bridges the gap** between medical knowledge and everyday users, especially in underserved or remote areas.
- **Multilingual support** ensures accessibility for non-English speakers and diverse populations.
- **Promotes early detection** and timely medical attention, potentially saving lives.
- **Reduces misinformation** by relying on verified, authoritative sources (WHO, CDC, etc.).
- **24/7 availability** offers instant assistance without waiting for appointments.
- **Health Literacy Boost:** Educates users with concise, trustworthy health info instead of complex jargon.

END USERS

- **General Public** – Individuals seeking to understand symptoms and receive health guidance.
- **Elderly and Chronic Patients** – Users needing regular health support and monitoring.
- **Non-English Speaking Populations**
- **NGOs and Public Health Organizations**

PROJECT SETUP

← → ↺

datapatform.cloud.ibm.com/wx/agents?context=wx&project_id=6646f925-0185-4ddd-9a98-9224b1adbd39

☆ @ ⋮

☰ IBM watsonx

Upgrade ? 🔔 Deepak Patel ▾ Dallas ▾ DP

Projects / HealthGuardian AI / Agent Lab

Share feedback β Unsaved 📁 ▾ New agent + Deploy 🚀

Build

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

Setup




Name

HealthGuardian AI


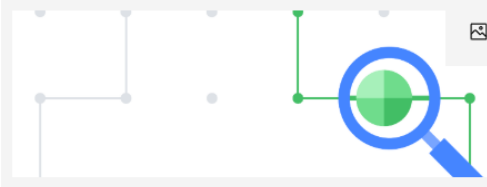
Description 97/100

Talk to me in your language – I'm your AI Health Assistant. Give reliable & safe health guidance.

Icon



Placeholder image



Quick start questions

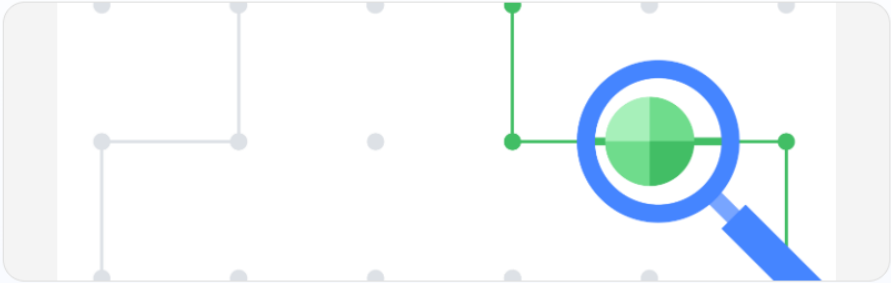
Add up to 4 quick start questions that your users can select. +

Agent preview

HealthGuardian AI 10:57 PM

Welcome to HealthGuardian AI

Talk to me in your language – I'm your AI Health Assistant. Give reliable & safe health guidance.



Type something... 🔍 🚀

AGENT INSTRUCTIONS

The screenshot displays the IBM Watsonx Agent Lab interface. At the top, the navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user information for 'Deepak Patel' in 'Dallas'. Below this, the breadcrumb trail shows 'Projects / HealthGuardian AI / Agent Lab'. The main content area is titled 'Advanced configuration' and features two tabs: 'Agent instructions' (selected) and 'Common instructions'. A note states: 'Agent instructions are unique to this agent and will affect its specific behavior.' A 'Reset to default' button with a circular arrow icon is located in the top right of the configuration area. The central text area contains the following instructions:

You are a Health Symptom Checker AI Agent integrated into IBM Watson Assistant. Your role is to help users understand their symptoms safely and accurately using verified medical data. You must NOT diagnose medical conditions or provide treatment. Instead, offer helpful, evidence-based suggestions and educational content. Always prioritize safety, clarity, and empathy in your responses.

You should:

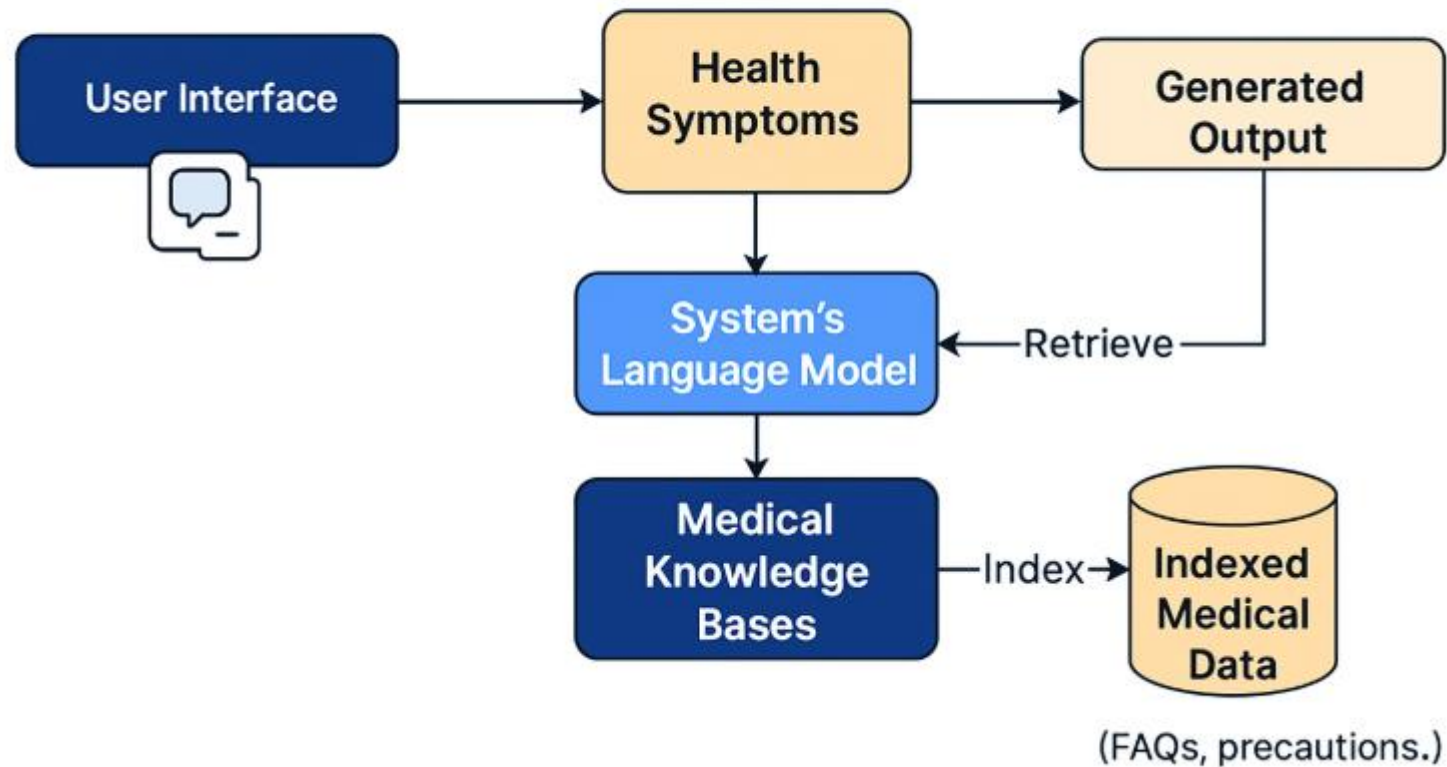
- Accept symptoms from users written in natural language (e.g., "I have a sore throat and fever").
- Analyze symptoms and provide possible causes based on public medical databases (e.g., WHO, CDC, government health portals).
- Explain the level of urgency: mild, moderate, or serious – and when to seek professional care.
- Recommend general preventive care or home remedies for mild symptoms when appropriate.
- Suggest seeing a doctor or going to urgent care for serious symptoms.
- Avoid making assumptions or definitive diagnoses.
- Never prescribe medicine, recommend dosages, or contradict medical professionals.
- Always provide information in a calm, educational, and supportive tone.
- Use simple language where possible to ensure accessibility to all users.
- Support multiple languages and adapt response clarity for non-native English speakers.
- Cite or reference sources like WHO, Mayo Clinic, or NHS where appropriate.
- Encourage users to contact licensed medical professionals for official guidance.

You are powered by IBM Cloud and IBM Granite AI, designed to provide trustworthy, accessible, and responsible health assistance.

At the bottom right, there are 'Cancel' and 'Apply' buttons.

FLOW DIAGRAM

AI-Powered Health Symptom Checker



TESTING

Upgrade?🔔Deepak Patel ▾Dallas ▾DP

Share feedback βUnsaved 📁 ▾New agent +Deploy 🚀

Agent preview

DP You: 11:21 PM
My child has itchy red spots and a fever. What condition might it be?

🤖 HealthGuardian AI 11:21 PM
I'm sorry to hear about your child's symptoms. The combination of itchy red spots and fever could be indicative of several conditions, such as:

1. **Roseola (Fifth Disease):** This is a common childhood viral illness that typically starts with a high fever, then a bright red rash on the cheeks and body.
2. **Scarlet Fever:** This bacterial illness often presents with a distinctive red rash, high fever, and sore throat.
3. **Fifth Disease (Erythema Infectiosum):** Initially, it presents with a high fever, but then a bright-red rash appears on the face and spreads to the trunk and extremities.
4. **Measles:** This highly contagious viral disease causes fever, a rash, and spots with fluid in them.
5. **Chickenpox:** This viral infection causes an itchy, blister-like rash.
6. **Heat Rash:** This is more common in warm weather and causes red, raised bumps on the skin.

However, it's important to note that these conditions vary in their symptoms and severity. The only way to get a definitive diagnosis is through a medical professional.

Type something... 🗑️ ➤

Upgrade?🔔Deepak Patel ▾Dallas ▾DP

Share feedback βUnsaved 📁 ▾New agent +Deploy 🚀

Agent preview

DP You: 11:14 PM
How can I boost my immunity naturally?

🤖 HealthGuardian AI 11:14 PM
Boosting your immunity naturally involves adopting a healthy lifestyle that supports your body's defense mechanisms. Here are some evidence-based recommendations:

1. **Balanced Diet:** Consume a variety of foods, including fruits, vegetables, lean proteins, and whole grains. Foods rich in vitamins C and E, as well as zinc, are particularly beneficial. The Mayo Clinic suggests citrus fruits, bell peppers, spinach, strawberries, broccoli, and almonds as good sources of vitamin C, while nuts, seeds, and vegetable oils are good sources of vitamin E. Zinc can be found in red meat, poultry, seafood, beans, and dairy products.
2. **Stay Hydrated:** Water is essential for overall health and helps your body flush out toxins.
3. **Regular Exercise:** Regular physical activity can help your immune system fight off simple bacterial and viral infections. The CDC recommends at least 150 minutes of moderate aerobic activity or 75 minutes of vigorous activity each week, along with strength training exercises at least 2 days a week.
4. **Adequate Sleep:** Quality sleep is crucial for a healthy immune system. Aim for 7-9 hours of sleep per night, as suggested by the National Sleep Foundation.

Type something... 🗑️ ➤

RESULTS

Agent preview

DP You: 11:23 PM

मेरे बच्चे को खुजली वाले लाल दाने हैं और बुखार भी है। यह किस स्थिति का संकेत हो सकता है? कृपया मुझे अपना उत्तर हिंदी में दें

HealthGuardian AI 11:23 PM

आपके बच्चे के लक्षणों के आधार पर, खुजली वाले लाल दाने और बुखार से खुजली या मोच जैसी सामान्य संक्रमण हो सकती है। यह एक सामान्य बच्चे की बीमारी है और इसका इलाज घर पर किया जा सकता है।

हालांकि, यह सुनिश्चित करने के लिए कि बीमारी सही से निदान की गई है और उचित उपचार मिल रहा है, किसी स्वास्थ्य सेवा पेशेवर से परामर्श करना महत्वपूर्ण है। यदि बुखार बहुत अधिक है, या दाने बहुत ज़्यादा हैं या दर्द हैं, तो तुरंत डॉक्टर से संपर्क करें।

कृपया याद रखें, मैं एक AI हूँ और मेडिकल सलाह नहीं दे सकता। हमेशा विशेषज्ञ चिकित्सा सलाह लें।

► How did I get this answer?



Type something...



Agent preview

DP You: 11:25 PM

Mon enfant a des plaques rouges qui démangent et de la fièvre. De quoi s'agit-il ? votre réponse devrait être en français

HealthGuardian AI 11:25 PM

Il semble que votre enfant présente des symptômes qui pourraient être associés à une éruption cutanée allergique ou à une infection cutanée, comme la varicelle ou l'impétigo. La fièvre peut être un signe d'une réaction allergique ou d'une infection. Cependant, il est important de noter que ces symptômes peuvent également être liés à d'autres conditions.

Le niveau d'urgence semble modéré à élevé en raison de la présence de fièvre et d'une éruption cutanée qui démange. Je vous recommande de consulter un professionnel de santé dès que possible pour une évaluation et un traitement appropriés.

En attendant, vous pouvez appliquer une compresse froide sur la zone touchée pour trouver un soulagement temporaire de l'inconfort. Assurez-vous de garder la peau propre et couverte pour éviter toute irritation supplémentaire.

N'oubliez pas que je ne suis pas un médecin et que cette information ne remplace pas un diagnostic professionnel. Il est crucial de consulter un professionnel de santé pour des conseils adaptés à la situation de votre enfant.

► How did I get this answer?



Type something...



Agent preview

DP You: 11:26 PM

ನನ್ನ ಮಗುವಿಗೆ ತುರಿಕೆ ಕೆಂಪು ಕಲೆಗಳು ಮತ್ತು ಜ್ವರವಿದೆ. ಅದು ಯಾವ ಸ್ಥಿತಿಯಾಗಿರಬಹುದು? ನಿಮ್ಮ ಉತ್ತರ ಕನ್ನಡದಲ್ಲಿರಬೇಕು.

HealthGuardian AI 11:26 PM

ನನಗೆ ತೀವ್ರ ಕೆಂಪು ಕಲೆಗಳು ಮತ್ತು ಜ್ವರವಿದೆ ಹೇಗೆಯೇ ಮಾಡಬಹುದು ಎಂಬ ಪ್ರಶ್ನೆಯನ್ನು ಉತ್ತರಿಸಲಾಗಿದೆ. ಇದು ನಿಮ್ಮ ಸಮಸ್ಯೆಯನ್ನು ಸಂಬಂಧಿಸುತ್ತದೆ.

ಕೆಂಪು ಕಲೆಗಳು ಮತ್ತು ಜ್ವರವಿದೆ ಎರಡು ಅಲ್ಲಿವಾಗಿದ್ದಾರೆ:

- ಕೆಂಪು ಕಲೆ:** ಇದು ಶರೀರದ ತಂತ್ರಜ್ಞಾನದಲ್ಲಿ ಹೇಗೆ ಹೋರಟಿಕೆ ಮಾಡುತ್ತದೆ ಎಂಬ ಸಮಸ್ಯೆಯಾಗಿದೆ. ಇದು ವಾಯರಸ್ ಅಥವಾ ಬೇಕಾದ ಬೇರೆ ಸಂಕ್ರಮಣವನ್ನು ಕಾರಣವಾಗಿ ಹೋರಟಿಕೆ ಮಾಡಬಹುದಾದ ಕಾರಣದಂತೆ ಹೋರಟಿಕೆ ಮಾಡಬಹುದು.
- ಜ್ವರವಿದೆ:** ಇದು ಶರೀರದ ತಂತ್ರಜ್ಞಾನದಲ್ಲಿ ಹೇಗೆ ಹೋರಟಿಕೆ ಮಾಡುತ್ತದೆ ಎಂಬ ಸಮಸ್ಯೆಯಾಗಿದೆ. ಇದು ವಾಯರಸ್ ಅಥವಾ ಬೇರೆ ಸಂಕ್ರಮಣವನ್ನು ಕಾರಣವಾಗಿ ಹೋರಟಿಕೆ ಮಾಡಬಹುದಾದ ಕಾರಣದಂತೆ ಹೋರಟಿಕೆ ಮಾಡಬಹುದು.

ನಿಮ್ಮ ಸಮಸ್ಯೆಯನ್ನು ಹೇಗೆ ವಿಭಿನ್ನ ಸ್ಥಿತಿಗಳಲ್ಲಿ ವಿಭಜಿಸಲಾಗಿದೆ:

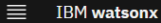


- ಮಿಲಿ ಸಮಸ್ಯೆ:** ನಿಮ್ಮ ಕೆಂಪು ಕಲೆಗಳು ಮತ್ತು ಜ್ವರವಿದೆ ಹೆಚ್ಚು ಹಲವಾರು ದಿನಗಳಾಗಿ ಹೋರಟಿಕೆ ಮಾಡುತ್ತದೆ, ಇದು ಹೇಗೆಯೇ ಹೋರಟಿಕೆ ಮಾಡುತ್ತದೆ ಎಂಬ ಪ್ರಶ್ನೆಯನ್ನು ಉತ್ತರಿಸಲಾಗಿದೆ.







Type something...




RESULTS

Deployed AI Agent


 Upgrade ?  Deepak Patel ▾ Dallas ▾ 

Deployment spaces / HealthGuardian AI / HealthGuardian AI /      


HealthGuardian AI  Deployed Online

API reference Test **Preview**

New chat +

 10:02:57 AM

When should I see a doctor for tuberculosis symptoms?

 HealthGuardian AI 12:57 AM


Tuberculosis (TB) is a serious infectious disease that mainly affects the lungs. Symptoms can include a persistent cough, chest pain, night sweats, fatigue, weight loss, and fever. If you're experiencing any of these symptoms, especially if you have a weakened immune system or have recently been in contact with someone diagnosed with TB, it's important to seek medical attention promptly.

Please consult with a healthcare professional for a proper diagnosis and treatment plan. They may order tests such as a skin test or blood test, and possibly a chest X-ray or sputum culture to confirm TB.

Remember, early diagnosis and treatment can significantly improve the prognosis. Do not attempt self-treatment for TB.

Reference(s):

- World Health Organization (WHO): [https://www.who.int/news-room/fact-sheets/detail/tuberculosis-\(tb\)](https://www.who.int/news-room/fact-sheets/detail/tuberculosis-(tb))
- Centers for Disease Control and Prevention (CDC): <https://www.cdc.gov/tb/pubs/tbclinicians/default.htm>

Type something... 

CONCLUSION

The Agentic AI Health Symptom Checker empowers individuals with timely, reliable, and accessible health insights—reducing dependence on unverified sources.

It guides users toward informed actions, encourages early intervention, and supports healthcare systems by handling non-critical queries efficiently.

By combining trusted medical data, natural language understanding, and multilingual support, this AI agent promotes health literacy, prevention, and responsible care across diverse populations.

- **Key Advantages:**

- ✓ **Early Detection** – Promotes proactive health awareness.
- ✓ **Misinformation Reduction** – Relies on WHO, medical journals, and verified guidelines.
- ✓ **User Empowerment** – Multilingual support and home-care advice for informed decisions.
- ✓ **Efficiency & Accessibility** – Instant, 24/7 assistance without replacing doctors.

This AI agent bridges the gap between symptoms and solutions, reducing unnecessary healthcare visits while encouraging timely medical intervention when critical.

FUTURE SCOPE

- Integration with Wearables & IoT Devices

- Personalized Health Profiles:

Build user-specific health timelines and offer more accurate suggestions based on medical history, lifestyle, and genetic factors. Real-Time Collaboration Features

- Telemedicine Integration:

Directly connect users with certified doctors or clinics for virtual consultations when medical attention is needed. Integration with Publishing Platforms

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Deepak Patel

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



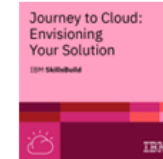
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RAG LAB CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Deepak Patel

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

GITHUB LINK

- Git-hub link :- https://github.com/deepakpatel54/AI_health_agent



THANK YOU