
CAPSTONE PROJECT

AGENTIC AI HEALTH SYMPTOM CHECKER

Presented By:

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OUTLINE

- Problem Statement
- Proposed System/Solution
- System Development Approach
- Result (Output Image)
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- Future Scope
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PROBLEM STATEMENT

Example: 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.

PROPOSED SOLUTION

The proposed system aims to address the challenge of helping users understand their health conditions by analyzing symptoms and providing reliable guidance. This involves leveraging IBM Cloud technologies, large language models (LLMs), and verified medical datasets to offer accurate, multi-language, and agentic interactions.

Data Collection:

- Source from WHO, CDC, Govt. portals.
- Collect symptom, disease, medicine, and doctor info.

Data Preprocessing:

- Clean and standardize data.
- Map symptoms to possible causes, remedies, and urgency.
- Add language support for Indian languages via Watson Language Translator.

AI Model :

- Use IBM Granite LLM via Watsonx.ai for interpretation.
- Use Watson Orchestrate for agent-like conversation flow.

Deployment:

_Store data logs (non-sensitive) in IBM Cloud Object Storage.

Evaluation: Suggests likely conditions, urgency, remedies, medicines, and specialist. Promotes early care, reduces misinformation. Multi-language, accessible, safe tool for users.

Result: Promotes early care, reduces misinformation.

SYSTEM APPROACH

The "System Approach" section outlines the overall strategy and methodology for developing and implementing the Health Symptoms Checker.

System Requirements:

- **Hardware Requirements:** Minimum 8 GB RAM (for development/testing), Dual-core CPU or higher, stable internet connection.
- **Software Requirements:** os :Windows /linux , Web Browsers(Chrome , Bing).
- **IBM Cloud Services:** Watsonx.ai (Granite LLM), Watson Orchestrate (for conversation flow).
- **APIs & Libraries:** IBM Cloud credentials and API key.

RESULT

The screenshot displays the IBM Watsonx Health Assistant interface. The top navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, a user profile for 'KOTARI CHANDRAKANTH' from 'Dallas', and a 'KC' icon. The main header shows the project path: 'Projects / Health Symptom Checker / Health Assistant', along with a 'Share feedback' button, a beta badge, an 'Autosaved 12:35 AM' status, and buttons for 'New agent' and 'Deploy'.

The interface is split into two main panels. The left panel, titled 'Build', contains several sections: 'Setup', 'Configuration', 'Instructions', 'Knowledge', and 'Tools'. Under 'Configuration', the 'Framework' is set to 'LangGraph' and the 'Architecture' is 'ReAct'. The 'Instructions' section contains a text box with the following content: '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. promotes early detection, reduces misinformation, and empowers users to take informed health actions.' Below this, the 'Knowledge' section has a 'Vector index' dropdown menu with the option 'Select or create vector index'. A 'Clear chat' button is also present. The 'Tools' section is currently empty.

The right panel, titled 'Agent preview', shows a chat conversation. The user's message is: 'I have a sore throat and fever.' The Health Assistant's response is: 'I'm sorry to hear that you're not feeling well. A sore throat and fever can be caused by various conditions, including the common cold, flu, strep throat, or tonsillitis. Here are some general home remedies that might help alleviate your symptoms:'. The response includes a numbered list of five remedies: 1. Stay hydrated, 2. Rest, 3. Over-the-counter remedies, 4. Soothe your throat, and 5. Humidify the air. Below the list, the assistant provides additional advice on when to consult a doctor and suggests searching for more specific information from reliable sources like the Mayo Clinic or the Centers for Disease Control and Prevention. At the bottom of the chat, there is a text input field with the placeholder 'Type something...' and a send button.

RESULT

The screenshot displays the IBM Watsonx Health Assistant interface. The top navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, a user profile for 'KOTARI CHANDRAKANTH'..., and a location dropdown for 'Dallas'. The main header shows the project path 'Projects / Health Symptom Checker / Health Assistant' and a 'Deploy' button. The interface is split into two main panels: 'Build' on the left and 'Agent preview' on the right.

Build Panel:

- Model:** granite-3-3-8b-instruct
- Framework:** LangGraph
- Architecture:** ReAct
- Instructions:** 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. promotes early detection, reduces misinformation, and empowers users to take informed health actions.
- Knowledge:** (Section header)
- Tools:** (Section header)
- Buttons:** 'Add a tool' and 'Create custom tool'
- Added tools (4):** (Section header)

Agent preview Panel:

- User Input:** 'I smoke'
- Health Assistant Response:** 'I understand that you mentioned you smoke. Smoking is associated with numerous health issues, including but not limited to:'
- Health Risks List:**
 - 1. Respiratory Problems:** Smoking is a leading cause of chronic obstructive pulmonary disease (COPD), lung cancer, and other respiratory conditions.
 - 2. Cardiovascular Disease:** Smoking increases the risk of heart disease, stroke, and peripheral vascular disease.
 - 3. Cancer:** Besides lung cancer, smoking is linked to cancers of the mouth, throat, esophagus, bladder, kidney, and stomach.
 - 4. Weakened Immune System:** Smoking can increase the chance of getting sick and recovering more slowly.
 - 5. Oral Health:** It can lead to tooth loss, gum disease, and oral cancer.
- Conclusion:** 'Quitting smoking at any age can significantly improve your health and reduce the risk of these diseases. Here are some resources to help you quit:'
- Resources:**
 - **Quit Smoking Support Groups:** Locally or online.
 - **Nicotine Replacement Therapy (NRT):** Patches, gums, lozenges, etc.
 - **Medications:** Prescription drugs to reduce cravings and withdrawal symptoms.
- Input Field:** 'Type something...'

CONCLUSION

- The Agentic AI Health Symptom Checker offers a reliable, intelligent, and user-friendly solution for preliminary health assessment. By leveraging IBM's Granite LLM, Watsonx, and trusted medical data sources, the system ensures safe, educational, and multilingual health guidance. It empowers users with early insights, avoids self-diagnosis risks, and promotes timely medical consultation — ultimately enhancing public health awareness and digital healthcare accessibility.

FUTURE SCOPE

The Agentic AI Health Symptom Checker can evolve by integrating with wearable health devices for real-time tracking, enabling voice-based interactions for better accessibility, and syncing with electronic health records for personalized advice. It can also offer localized health alerts, doctor appointment booking, and deployment as a mobile app, making healthcare guidance more accessible, intelligent, and proactive in the future.

REFERENCES

The development of the Agentic AI Health Symptom Checker is supported by trusted medical and technological resources. Medical data and guidelines are derived from reputable sources such as the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and the National Health Portal of India. Additional clinical insights are drawn from peer-reviewed research available on PubMed. The technical foundation is built using IBM Cloud services, including Watsonx and Granite LLM, with guidance from official IBM documentation.

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In recognition of the commitment to achieve
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KOTARI CHANDRAKANTH

Has successfully satisfied the requirements for:

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Completion Certificate



This certificate is presented to
KOTARI CHANDRA KANTH

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