

IBM HACKATHON PROJECT

NUTRITION AGENT

Presented By:

Student name : Vishal Biruly

College Name & Department : KIIT Polytechnic (CSE)

OUTLINE

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

PROBLEM STATEMENT

In an era where health awareness is growing, individuals increasingly seek personalized nutrition guidance. However, most existing tools provide generic diet plans, lack real-time adaptability, and fail to consider a person's holistic lifestyle, cultural preferences, allergies, and evolving health conditions.

Furthermore, dietitians and nutritionists face limitations in scaling personalized consultations due to time and resource constraints.

Proposed Solution:

An AI Nutrition Agent that uses Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), an AI-powered assistant can generate dynamic meal plans, recommend smart food swaps, and explain nutritional choices—all tailored to the individual.

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

An AI Nutrition Agent that offers real-time, hyper-personalized diet plans based on your health data, scans meals using computer vision to analyze nutrition, auto-generates smart grocery lists, syncs with wearables and medical reports, suggests goal-based recipes, and dynamically adapts to lifestyle changes for optimal health.

It can create budget-friendly meal plans using locally available ingredients.

The agent provides voice-based assistance for instant nutrition queries anytime.

It gamifies progress with challenges, leaderboards, and AI-generated rewards.

END USERS

- ▶ Fitness enthusiasts & athletes
- ▶ Health-conscious individuals
- ▶ People with medical conditions
- ▶ Nutritionists & dietitians

RESULTS

Agent preview

VB You: 10:56 PM

hey can you help me ?

 watsonx Agent 10:56 PM

Hi, I am watsonx.ai agent. How can I help you?

► How did I get this answer?

VB You: 10:57 PM

can you suggest me the best nutrition food for an average indian ?

 watsonx Agent 10:57 PM

Based on the search results, it appears that a balanced diet that includes a variety of foods from all food groups is the best nutrition food for an average Indian. This includes consuming plenty of fruits, vegetables, whole grains, lean proteins, and healthy fats. It's also important to limit intake of processed and sugary foods.

Some specific foods that are considered healthy and nutritious for Indians include:

- Dal (lentils)

Type something...



RESULTS

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watsonx Agent 10:57 PM

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Some specific foods that are considered healthy and nutritious for Indians include:

- Dal (lentils)
- Tandoori proteins (such as chicken or fish)
- Chana masala (a dish made with chickpeas and spices)
- Ghee (clarified butter)
- Fruits and vegetables
- Whole grains (such as brown rice, quinoa, and whole wheat bread)

It's also important to note that a vegetarian diet can be a healthy option for Indians, as long as it is well-planned and includes a variety of foods from all food groups.

Type something...



RESULTS

Agent preview

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Overall, the key to a healthy diet is to consume a variety of whole, unprocessed foods and to limit intake of processed and sugary foods. It's also important to stay hydrated by drinking plenty of water and to limit intake of sugary drinks.

► How did I get this answer?



Type something...



CONCLUSION

- ▶ Provides **real-time, hyper-personalized diet plans** tailored to individual health data.
- ▶ Uses **AI and computer vision** to analyze meals and track nutrition effortlessly.
- ▶ Integrates with **wearables, fitness apps, and medical reports** for accurate recommendations.

GITHUB LINK

► <https://github.com/vishalbiruly/Ai>

FUTURE SCOPE

- ▶ **Integration with IoT devices** like smart fridges and kitchen appliances for automated meal tracking.
- ▶ **DNA-based nutrition planning** using genetic data for ultra-personalized diets.
- ▶ **AR food scanning** to visualize nutrition facts in real-time on your plate.
- ▶ **Partnerships with healthcare providers** for preventive health and chronic disease management.

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Vishal Biruly

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 15, 2025

Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/2905e330-12e0-4138-aedc-415a17cb1675>





This certificate is presented to

Vishal Biruly

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 20 Jul 2025 (GMT)

Learning hours: 20 mins

THANK YOU