

# IBM AICTE PROJECT

## NUTRITION AGENT

**Presented By:**

**Student name :Sandhya Rani Yalla**

**College Name :Kakinada Institute Of Engineering And Technology For Women**

**Department : CSE(Artificial Intelligence And Data Science)**

# OUTLINE

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

# PROBLEM STATEMENT

- Individuals, nutritionists, and healthcare professionals often struggle to stay updated with the rapidly growing volume of dietary research, nutritional guidelines, food databases, and evolving health trends. Manually reviewing, filtering, and synthesizing information across multiple sources is time-consuming and inefficient.
- **Proposed Solution:**
- An AI Nutrition Agent that uses Natural Language Processing (NLP) and Retrieval-Augmented Generation (RAG) to:
  - Provide personalized meal plans
  - Generate evidence-based nutrition summaries
  - Identify dietary gaps
  - Recommend relevant research, recipes, or health professionals

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# TECHNOLOGY USED

- **IBM Cloud Lite Services**-Secure and scalable platform for hosting the Nutrition Agent.
- **Natural Language Processing(NLP)**-Understands user queries, processes dietary guidelines, and extracts insights from nutrition research.
- **Retrieval-Augmented Generation(RAG)**-Fetches accurate nutrition data and combines it with generative AI for evidence-based recommendations.
- **IBM Granite Model**-Foundation model for generating personalized meal plans, summaries, and dietary insights.

## IBM CLOUD SERVICES USED

- **IBM Cloud Watsonx AI Studio**-For training, deploying, and managing AI models that power the Nutrition Agent.
- **IBM Cloud Watsonx AI runtime**-Provides a scalable runtime environment to serve AI-powered nutrition recommendations.
- **IBM Cloud Agent Lab**-Enables integration and orchestration of AI agents for meal planning and dietary analysis.
- **IBM Granite foundation model**-Powers personalized nutrition insights and natural language understanding.

# WOW FACTORS

This agent will revolutionize personalized health by providing AI-driven dietary recommendations, reducing the time spent on meal planning, helping users achieve their nutrition goals, and making dietary knowledge more actionable and accessible.

## Unique Features:

- Hyper-personalized meal plans tailored to health data and preferences
- Real-time nutrient and calorie insights based on user input
- AI-generated recipes using available ingredients
- Adaptive recommendations that evolve with user progress
- Integration with wearable devices and health apps
- Evidence-based guidance sourced from verified nutrition research

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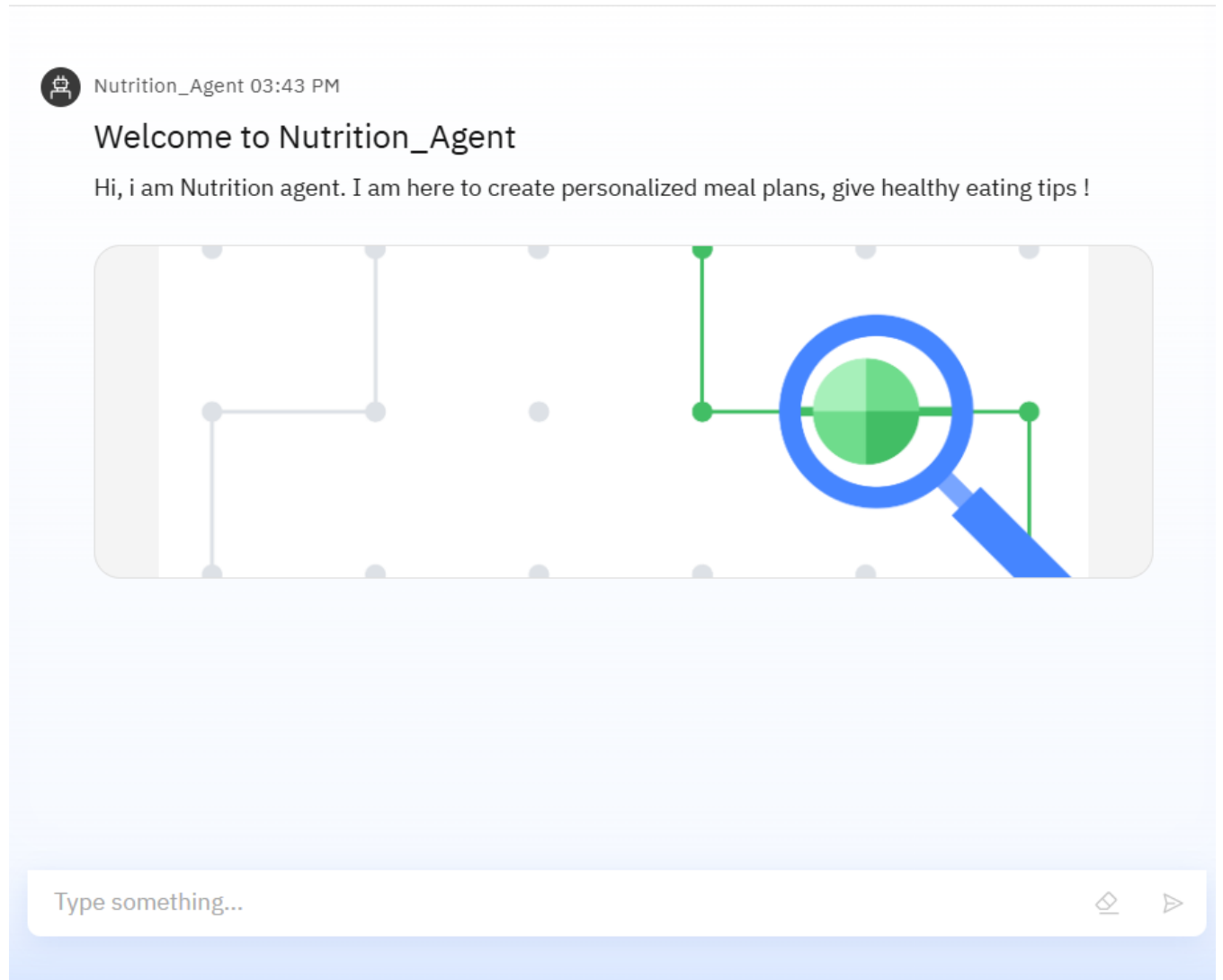
## END USERS

- Nutrition Agent and Dietitians
- Healthcare Institutions and Wellness Centers
- Fitness Trainers and Coaches
- Individuals Seeking Personalized Nutrition

# RESULTS

- Personalized Meal Plans
- Healthy Eating Tips
- AI-Driven Assistance
- User-Friendly Interface
- Customizable Options

## Agent preview





# RESULTS

- Collects User Data
- Understands Health Goals
- Supports Dietary Preferences
- Considers Allergies & Restrictions
- Generates Tailored Meal Plans
- Includes Grocery Lists & Snacks

## Agent preview



Nutrition Agent 11:56 AM

Hi, I am Nutrition agent. How can I help you with your dietary needs today?

To create a personalized diet plan for you to be fit, I need some information:

1. Age
2. Gender
3. Weight
4. Height
5. Activity level (sedentary, lightly active, moderately active, very active, or extra active)
6. Health goals (weight loss, muscle gain, maintenance, etc.)
7. Dietary preferences (vegetarian, vegan, keto, etc.)
8. Allergies or food restrictions

Once I have this information, I can provide a tailored meal plan with recommended daily calorie intake, macronutrient breakdown, meal suggestions, snacks, and a grocery list.

Please provide the necessary details so I can assist you effectively.

► How did I get this answer?



You: 11:56 AM

can u please tell about python programming

Type something...



# RESULTS


- The agent is designed only for nutrition and diet-related queries.
- When you tried asking non-nutrition questions, it clearly mentioned its limitation.
- It does not answer programming or other non-programming topics.
- Expertise is limited to diet, meal planning, and nutrition information.

## Agent preview


intake, macronutrient breakdown, meal suggestions, snacks, and a grocery list.

Please provide the necessary details so I can assist you effectively.

► How did I get this answer?

 You: 11:56 AM

can u please tell about python programming

 Nutrition Agent 11:56 AM


Hi, I am Nutrition agent. How can I help you with your dietary needs today?



I'm sorry for any confusion, but as a nutrition agent, my expertise lies in providing dietary advice, meal planning, and nutrition information. I'm not equipped to give detailed information about Python programming.

For Python programming, I recommend using a search engine or a dedicated programming resource. You can use a search function to look up Python programming basics, tutorials, or documentation.

Would you like assistance with a nutrition-related topic instead?

► How did I get this answer?



Type something...  


# Deployed AI Agent


Deployment spaces / Nutrition\_Agent / Nutrition\_Agent /


**Nutrition\_Agent** ✓ Deployed Online

API reference **Nutrition\_Agent** **Preview**


[New chat +](#)

 Nutrition\_Agent 04:56 PM  
Hi, I am Nutrition agent. How can I help you today?

 You 04:56 PM  
suggest diet plan

 Nutrition\_Agent 04:56 PM  
I'd be happy to help you create a personalized diet plan! To make it tailored to your needs, I'll need some information from you:

1. Age, gender, weight, and height.
2. Your activity level (sedentary, lightly active, moderately active, very active).
3. Your health goals (weight loss, muscle gain, maintenance, etc.).
4. Dietary preferences (vegetarian, vegan, keto, etc.).

Type something... 

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## CONCLUSION

- Provides personalized diet plans based on user preferences and health goals.
- Automates nutrient tracking and analysis for better accuracy.
- Saves time by simplifying meal planning and data management.
- Encourages healthier lifestyle choices with AI-driven recommendations.
- Can be applied in both personal health apps and larger wellness programs.
- Demonstrates how AI can make nutrition guidance more accessible and evidence-based.

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# FUTURE SCOPE

- Integration with Wearable and IoT Devices
- AI-Powered Personalized Recipe Suggestions
- Advanced Health Monitoring and Analysis
- Multilingual and Global Accessibility
- Voice-Activated Diet Assistance
- Collaboration with Healthcare Professionals
- Integration with Grocery and Meal Delivery Apps
- Predictive Analytics for Long-Term Health Outcomes

# IBM CERTIFICATIONS

## GETTING STARTED WITH AI

In recognition of the commitment to achieve  
professional excellence



# Sandhya Rani Yalla

Has successfully satisfied the requirements for:

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## Getting Started with Artificial Intelligence

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Issued on: Jul 16, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/b57330f6-f842-440a-b894-a6c2d15738c0>



## RAG LAB

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to  
Sandhya Rani Yalla

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 25 Jul 2025 (GMT)

**Learning hours:** 20 mins

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## GITHUB LINK

- Make sure that there should be readme file





# THANK YOU