

IBM HACKATHON PROJECT

SMART AI NUTRITION ASSISTANT-NUTRINOW

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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 seeking personalized nutrition guidance often face a lack of intelligent tools that can consider their unique dietary needs, cultural food preferences, allergies, health goals, and lifestyle habits. Existing apps tend to offer generic one-size-fits-all meal plans, while access to human nutritionists is limited, costly, and not scalable. As a result, users are left with static suggestions that fail to adapt in real-time or provide nutritional reasoning.

PROPOSED SOLUTION

An AI-powered Nutrition Agent that leverages Natural Language Processing (NLP), IBM Watsonx.ai, and cloud-based services to generate personalized, goal-based meal plans. The agent understands user inputs such as age, diet type, allergies, and fitness goals and provides contextual meal suggestions along with nutritional explanations. It can evolve with user feedback and potentially accept voice or image inputs in the future, making it a 24/7 virtual dietitian that adapts to users dynamically.

TECHNOLOGY USED

IBM cloud lite services

IBM Watsonx.ai

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 empower individuals with truly personalized diet plans, reduce reliance on generic health apps, and bring expert-like nutritional guidance to everyone—instantly and intelligently.

Unique features:

Multimodal input: Understands natural language, voice commands, and even food images

Tailored meal plans based on allergies, health goals, preferences, and medical conditions

Contextual explanations: Explains “why” behind every food suggestion

Smart food swaps and healthy recommendations using real-time data

Adaptive learning: Adjusts plans continuously based on user feedback

Integration with wearable devices and fitness apps for dynamic nutrition tracking

END USERS

- Health-Conscious Individuals
- Dieticians and Nutritionists
- Fitness Trainers and Coaches
- Healthcare Providers
- Schools and Educational Institutions

RESULTS

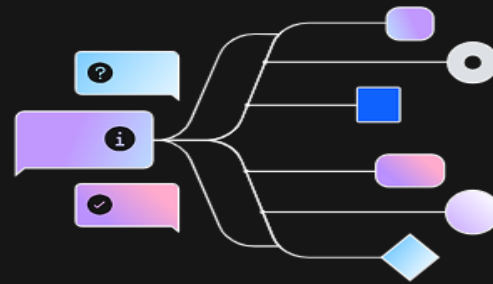
Agent preview



Nutrinow 01:45 PM

Welcome to Nutrinow

I'm your AI Nutrition Agent – here to help you create personalized meal plans based on your age, die



Sample questions

Do you have any food allergies or restrictions I should know about? →

Would you like a meal plan for a single day or a full week? →

Are you looking for weight loss, muscle gain, or just healthy eating? →

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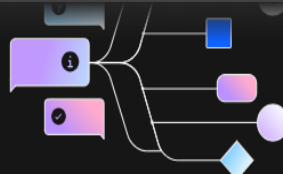
Type something...



RESULTS

[API reference](#)[Test](#)[Preview](#)

New chat +



Quick start samples

Do you have any food allergies or restrictions I should know about?
→

Would you like a meal plan for a single day or a full week?
→

Are you looking for weight loss, muscle gain, or just healthy eating?
→


What's your age, diet type, and health goal?
→

generate me a meal plan of 500 calories for weight gain →

edunet
foundation

RESULTS

Agent preview

 You: 01:37 PM

i need an meal plan with 500 calories,Non-vegan for weight gain for 1 month

 Nutrinow 01:37 PM

I can certainly help you with that! To create a balanced 500-calorie non-vegan meal plan for weight gain over a month, we'll focus on nutrient-dense foods that are high in calories and protein. Here's a simple 7-day meal plan to get you started. Remember, it's essential to adjust portion sizes to meet your exact caloric needs, and you may want to consult with a nutritionist or dietitian for personalized advice.

Day 1:

- Breakfast: 2 scrambled eggs with spinach and feta cheese, 1 slice of whole grain toast.
- Snack: Greek yogurt with honey and mixed berries.
- Lunch: Grilled chicken breast salad with avocado, tomatoes, cucumbers, and olive oil dressing.
- Snack: A small handful of almonds and an apple.
- Dinner: Baked salmon with quinoa and steamed broccoli.

Day 2:

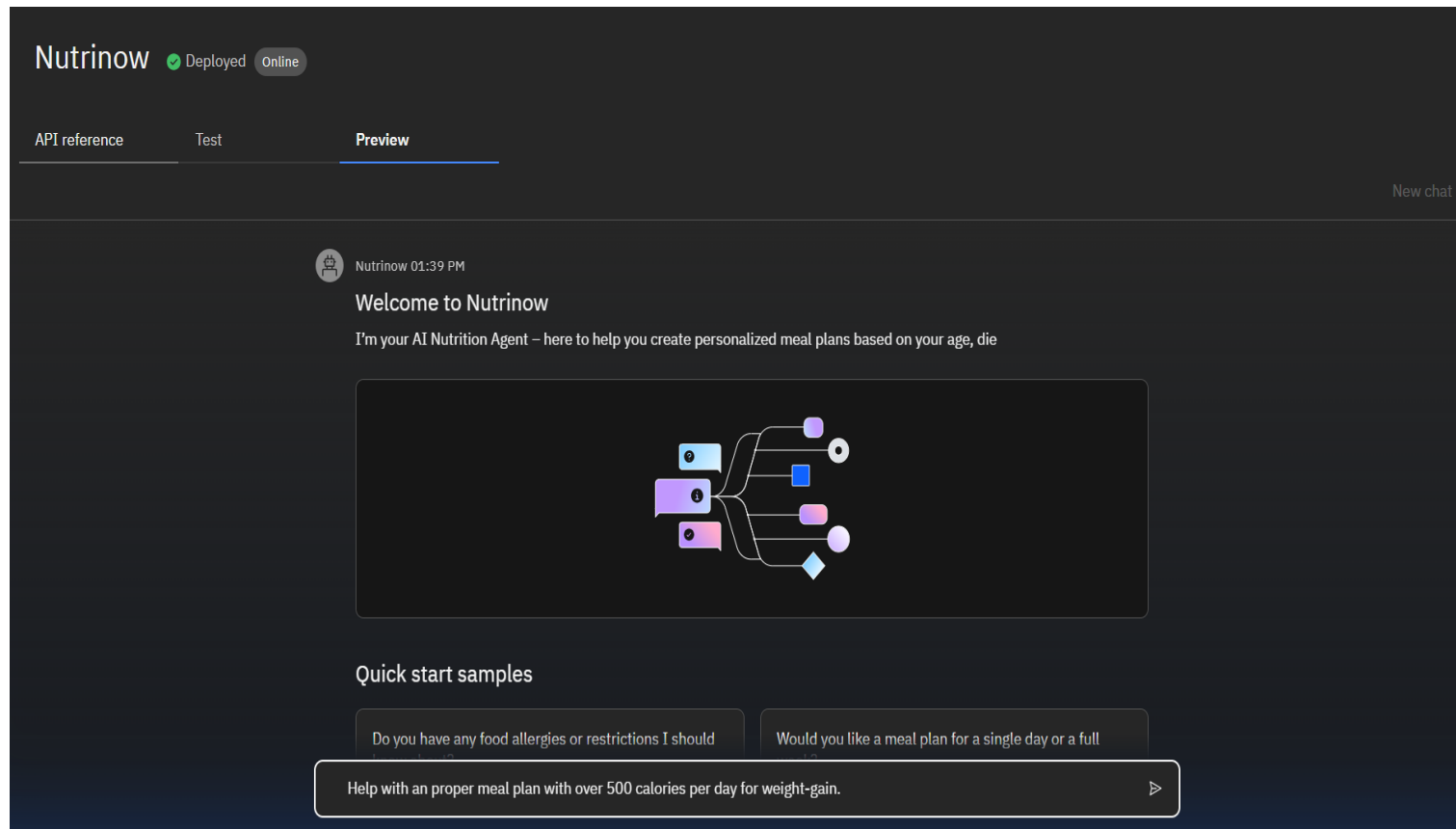
- Breakfast: Oatmeal with milk, topped with sliced bananas and a sprinkle of brown sugar.
- Snack: Cottage cheese with pineapple chunks.
- Lunch: Turkey and cheese sandwich on whole grain bread with lettuce and tomato.
- Snack: Carrot sticks with hummus.

|Type something...



RESULTS

Deployed AI Agent



CONCLUSION

- The agent offers personalized diet plans that adapt over time based on user feedback and health progress
- It saves time by automating nutrition tracking, meal suggestions, and allergy-aware recommendations.
- Nutrition Agents improve accessibility, accuracy, and long-term health outcomes for all users.
- The agent helps bridge the gap between generic apps and real dieticians with AI-driven personalization.
- It supports interaction through text, voice, and images, making nutrition guidance more engaging and inclusive.

GITHUB LINK

- https://github.com/Srinayan-96/Nutrition_agent_Nutrinow

FUTURE SCOPE

- Multilingual Nutrition Support
- Voice-Enabled Smart Nutrition Assistant
- Real-Time Health Integration
- Visual Meal Recognition
- Integration with Healthcare Systems
- Community Feedback Loop (community-driven meal reviews for continuous AI learning)

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



Srinayan Nyalakonda

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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This certificate is presented to
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for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 18 Jul 2025 (GMT)

Learning hours: 20 mins

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THANK YOU