AGENTIC AI PROJECT

NUTRITION AGENT

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OUTLINE

- Problem Statement
- Technology used
- Wow factor
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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, dieticians and nutritionists face limitations in scaling personalized consultations due to time and resource constraints.

Proposed Solution:

Generative AI presents a groundbreaking opportunity to revolutionize this space by enabling an intelligent, interactive, and adaptive virtual nutrition assistant. By leveraging natural language processing (NLP), multimodal understanding, and large-scale dietary databases, 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 Al Studio
- IBM Cloud Watsonx Al runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model



WOW FACTORS

The Al doesn't just suggest workouts and meals—it creates *fully customized* routines and meal preps based on:

- •Fitness goals (fat loss, muscle gain, endurance)
- Dietary restrictions (vegan, keto, diabetic-friendly)
- •Time constraints (e.g., 15-minute meals, 20-min home workouts)
- Equipment availability (bodyweight only? full gym access? No problem.)
- 2. Dynamic Meal Prep Generator

Instantly generates meal plans that are:

- Nutritionally balanced (macros and micros calculated)
- •Batch-cooking optimized (makes meal prep efficient for the whole week)
- Budget-aware and tailored to grocery costs
- Can even produce shopping lists grouped by supermarket aisle.
- 3. Intelligent Workout Structuring

Your AI builds programs like a human trainer:

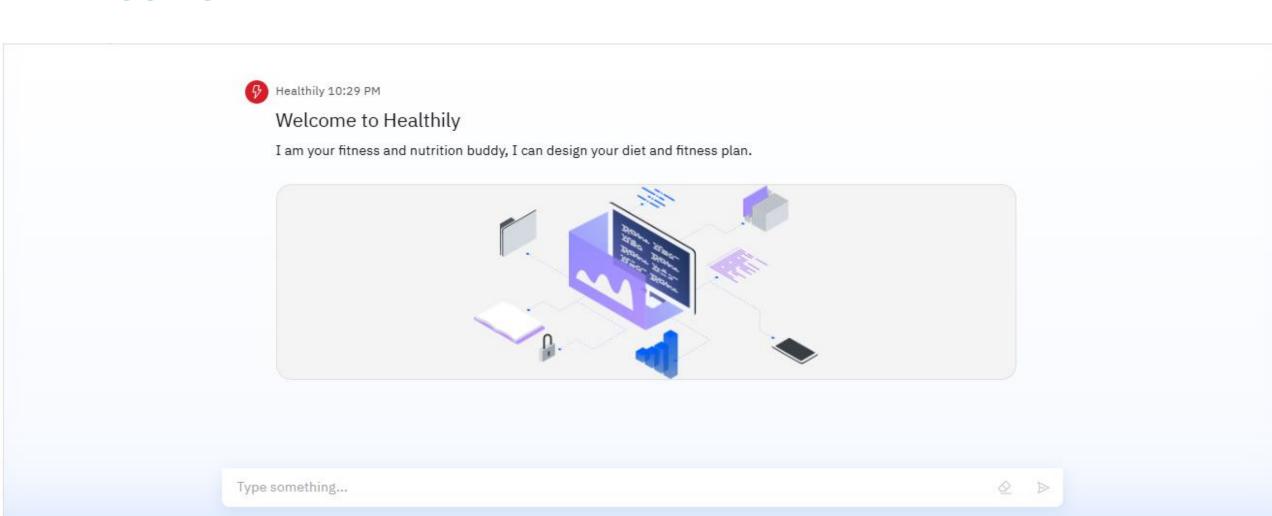
- Progressive overload included
- Adapts based on user feedback (sore? missed a session? No worries.)
- •Periodizes training phases (e.g., strength → hypertrophy → recovery weeks)



END USERS

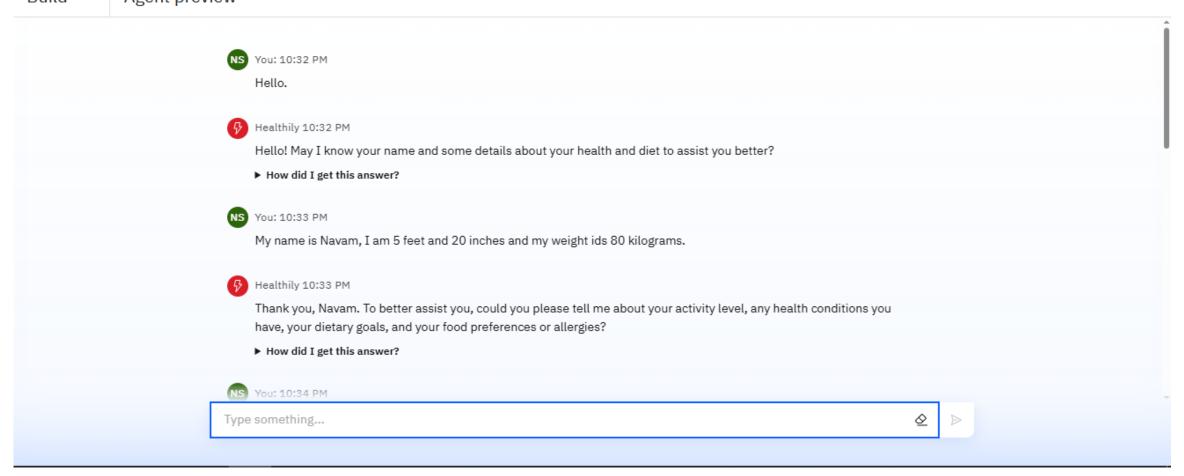
- General Consumers
- Healthcare & Wellness Professionals
- Fitness Studios & Gyms
- Schools, Colleges & Universities
- Corporate Wellness Programs







Build > Agent preview





Build →

Agent preview



You: 10:36 PM

Create a meal prep in short for over an year in brief.



Healthily 10:36 PM

Creating a detailed meal plan for an entire year can be quite extensive, but I can certainly outline a general structure for you to follow. Please note that individual needs may vary, so it's essential to adjust this plan according to your preferences and progress.

Year-Long Meal Prep Outline:

Phase 1 (Months 1-3): Foundation Building

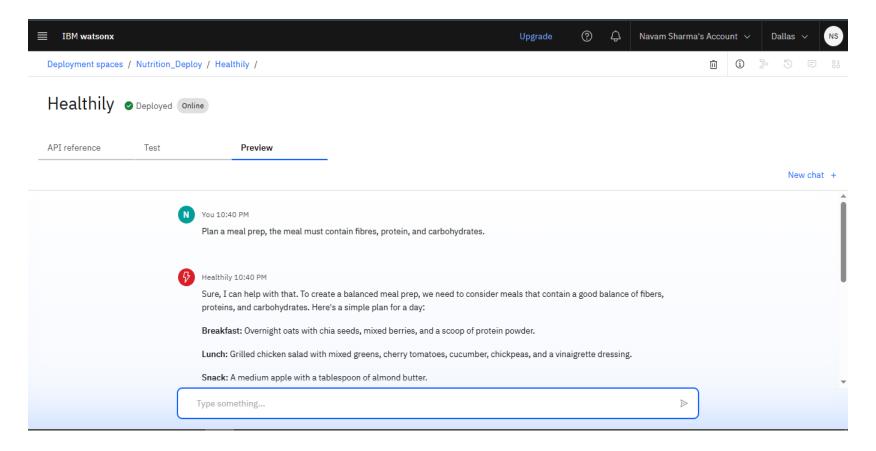
- Focus on whole, unprocessed foods.
- Prioritize lean proteins (chicken, turkey, fish, tofu), whole grains (brown rice, quinoa, whole-grain pasta), and plenty of vegetables.
- · Incorporate healthy fats (avocado, olive oil, nuts).
- Control portion sizes to create a calorie deficit for weight loss.

Type something...





Deployed AI Agent





CONCLUSION

- The agent can generate personalized meal preps according to user's interest and fitness goals.
- It can swap food items to the equal nutrient source food if a person has allergies to certain food items.
- Nutrition Agent can develop a plan to lose weight or gain muscles by providing respectful plans and exercises such as for cutting, high cardio is recommended by it.
- The agent can plan diet in phases for over a course of year to keep the plan brief and understandable.



FUTURE SCOPE

- Personalization & Precision Nutrition
- Voice-Activated Nutrition Agent
- Advanced User Interaction
- Real-Time Monitoring
- Clinical & Preventive Health Use
- Global & Sustainable Nutrition



IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence Navam Kumar Sharma Has successfully satisfied the requirements for: Getting Started with Artificial Intelligence Issued on: Jul 17, 2025 Issued by: IBM SkillsBuild Verify: https://www.credly.com/badges/36b18a66-2eaf-4a86-b2d2-abc2f5b8dc45



IBM SkillsBuild

Completion Certificate



This certificate is presented to

Navam Sharma

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 17 Jul 2025 (GMT)

Learning hours: 20 mins



In recognition of the commitment to achieve professional excellence



Navam Kumar Sharma

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



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GITHUB LINK

https://github.com/Navam28



THANK YOU

