
IBM HACKATHON PROJECT

FITNESS BUDDY

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COMPUTER SCIENCE (DATA SCIENCE)**

OUTLINE

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

PROBLEM STATEMENT

In today's fast-paced world, individuals struggle to maintain a healthy lifestyle due to lack of time, motivation, and personalized guidance. Existing solutions are often costly, rigid, or inaccessible. There is a growing demand for a friendly, intelligent assistant that can offer personalized health advice anytime.

- Proposed Solution:

Fitness Buddy is a multi-agent AI system built with IBM watsonx.ai and Granite LLMs. It features three prompt-based agents:

- **Nutrition Agent** – suggests healthy meals
- **Fitness Agent** – recommends workouts and motivational tips
- **Planner Agent** – helps plan daily wellness routines

TECHNOLOGY USED

- **IBM watsonx.ai** – Platform used to build, test, and deploy multiple intelligent agents (Fitness, Nutrition, Planner).
- **Granite-3-3-8b-Instruct** – IBM's dense decoder-only large language model for natural language understanding and generation.
- **Prompt Engineering (via IBM Agent Builder UI)** – Designed custom prompts for each agent role directly through the UI (no backend code required).
- **IBM Cloud (Lite Plan)** – Used to deploy and manage agent instances in a cloud-based environment.

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

WOW FACTORS

- **Multi-Agent Intelligence**
Deployed three role-specific agents (Fitness, Nutrition, Planner) using IBM Granite models for personalized wellness assistance.
- **Natural Language Interaction**
Seamless communication through simple prompts—no technical input required from users.
- **No Backend Coding Needed**
Designed entirely using **prompt engineering** within IBM watsonx.ai's Agent Builder UI.
- **Powered by IBM Granite-3-3-8B-Instruct**
Used a state-of-the-art LLM for accurate, contextual, and human-like responses.
- **Cloud-Based Deployment**
Built and tested entirely on **IBM Cloud Lite**, showcasing scalable, cost-effective AI deployment.
- **Real-World Impact**
Addresses fitness, nutrition, and habit formation—ideal for students, professionals, and health enthusiasts.
- **Scalable & Extensible**
Easily extendable to include a frontend (Gradio or React) or a LangGraph workflow for complete integration.

END USERS

- **Students and Young Professionals**
Individuals managing busy schedules who seek accessible fitness and nutrition guidance without needing expensive subscriptions or in-person consultations.
- **Educational Institutions and Wellness Programs**
Colleges and schools that can integrate AI-based wellness tools to promote physical and mental well-being among students.
- **Corporate Wellness Teams**
Companies aiming to support employee health through personalized, on-demand AI assistants for fitness and habit building.
- **General Health-Conscious Individuals**
Anyone seeking consistent motivation, daily planning, and simple, healthy lifestyle suggestions through a conversational interface.

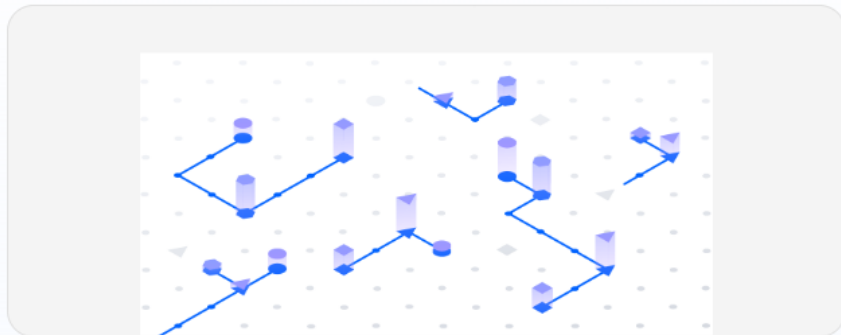
RESULTS

Agent preview

NutritionAgent 09:43 PM

Welcome to NutritionAgent

Your AI guide to healthy eating, meal planning, and personalized nutrition tips. Let's build better



Type something...

IBM watsonx

Upgrade ⓘ 🔔 Rohitha Andey's Account ▾ Dallas ▾ RA ⓘ

Projects / FitnessBuddy / NutritionAgent

Share feedback ⓘ ⌵ Saving ⌵ New agent + Deploy ⓘ 🔒 ⓘ

Saved agents

From FitnessBuddy

FitnessAgent
Your virtual fitness coach for home workouts, healthy meal...

NutritionAgent
Your AI guide to healthy eating, meal planning, and ...

PlannerAgent
Your wellness planner for workouts, meals, hydration, ...

Build

AI Model: granite-3-3-8b-instruct ⌵ ⚙️ ⏪

Setup

Configuration

Framework Architecture

LangGraph ⌵ ReAct ⌵

Instructions [Advanced configuration](#)

- recommend balanced diet tips
- Explain basic nutrition facts

Avoid giving medical or clinical advice. Do not suggest supplements or diagnose conditions.

Knowledge

Tools

Add a tool

Create custom tool

Added tools (4)

Google search

⚙️ 🗑️

Retrieve information from the internet with the Google search engine.

Agent preview

RA You: 09:42 PM

give me nutritious diet for me to stay healthy

NutritionAgent 09:42 PM

To maintain a healthy diet, focus on incorporating a variety of nutrient-dense foods into your meals. Here's a simple guideline:

- Fruits and Vegetables:** Aim for at least 5 servings daily. They're high in vitamins, minerals, and fiber but low in calories. Opt for a variety of colors to get different types of nutrients.
- Whole Grains:** Choose whole grain bread, pasta, rice, and cereals. They are higher in fiber and keep you feeling full longer, which can help with weight management.
- Lean Proteins:** Include lean meats, poultry, fish, eggs, beans, and tofu. Protein is essential for growth and repair within the body.
- Healthy Fats:** Incorporate sources like avocados, nuts, seeds, and olive oil. These provide essential fatty acids that your body needs but cannot produce on its own.
- Dairy or Dairy Alternatives:** Opt for low-fat or non-fat dairy products like milk, yogurt, and cheese for calcium and vitamin D. If you're lactose intolerant, choose calcium-fortified plant-based alternatives.

Type something... ⓘ ➡

RESULTS

IBM watsonx

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Deployment spaces / ⓘ ⚙️ ⌛ ⌚ ⌂

FitnessBuddy Deployment Space

OverviewAssetsDeploymentsJobsManage

🔍 Search ↻

Name	Type	Status	Asset	Asset type	Tags	Last modified	⌵
🔗 PlannerAgent	Online	✅ Deployed	watsonx Agent	Ai service	wx-agent ✎	2 days ago Rohitha Andey (You)	⋮
🔗 NutritionAgent	Online	✅ Deployed	watsonx Agent	Ai service	wx-agent ✎	2 days ago Rohitha Andey (You)	⋮
🔗 FitnessCoachAgent	Online	✅ Deployed	watsonx Agent	Ai service	wx-agent ✎	2 days ago Rohitha Andey (You)	⋮

RESULTS

Agent preview



You: 09:44 PM

workout and meal



PlannerAgent 09:44 PM

Great! Here's a simple balanced daily routine based on typical workout and meal preferences:

Morning:

- 6:00 AM - Wake up, hydrate with a glass of water.
- 6:30 AM - Morning Workout (e.g., jogging, yoga, or gym). Aim for at least 30 minutes to an hour depending on your preference and schedule.
- 7:45 AM - Post-workout snack (like Greek yogurt with berries or a protein shake).

Midmorning:

- 8:30 AM - Breakfast (e.g., oatmeal with fruits and nuts, scrambled eggs with whole grain toast).

Afternoon:

- 12:30 PM - Lunch (e.g., grilled chicken salad, quinoa bowl with veggies). Try to include lean proteins, complex carbs, and plenty of vegetables in your meals for balance. *Reminder:* Take some time to relax after lunch; short breaks can boost productivity when you return

Type something...



Agent preview



PlannerAgent 09:43 PM

Welcome to PlannerAgent

Your wellness planner for workouts, meals, hydration, and healthy daily routines—built around your



Type something...



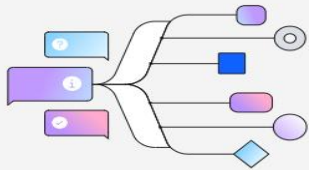
RESULTS

Agent preview

 FitnessAgent 09:44 PM

Welcome to FitnessAgent

Your virtual fitness coach for home workouts, healthy meals, and motivation—let's build strong, last



Type something...



Agent preview

 You: 09:44 PM

give me motivational tips to do workout and stay healthy

 FitnessAgent 09:44 PM

Absolutely, I'd be happy to help with that! Here are some motivational fitness tips to keep you going:

1. **Set Clear Goals:** Having a specific goal in mind can be a great motivator. Whether it's losing weight, building muscle, or improving endurance, knowing what you're working towards can keep you focused.
2. **Track Your Progress:** Keep a record of your workouts and improvements. Seeing how far you've come can be a powerful motivator.
3. **Mix It Up:** Doing the same workout routine can get boring. Try different exercises to keep things interesting.
4. **Find a Workout Buddy:** Exercising with a friend can make workouts more fun and help keep you accountable.
5. **Reward Yourself:** Celebrate your achievements, no matter how small. It could be a new workout outfit, a massage, or just the satisfaction of knowing you're healthier.

Type something...



CONCLUSION

- Designed an AI-powered virtual fitness coach using IBM watsonx.ai
- Implemented three intelligent agents: Fitness, Nutrition, and Planner
- Delivered real-time, personalized wellness support with natural prompts
- Used IBM Granite models for accurate and engaging responses
- No coding required — built entirely through prompt engineering
- Hosted and tested on IBM Cloud Lite with a user-friendly experience
- Showcases the potential of multi-agent AI in health & lifestyle domains

GITHUB LINK

- https://github.com/Rohitha777/Agentic_AI

FUTURE SCOPE

- Add user-friendly Gradio/React frontend
- Integrate LangGraph for better agent coordination
- Personalize plans using user data
- Track progress and send reminders
- Support voice input and multiple languages
- Connect with fitness wearables

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Rohitha Andey

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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Rohitha Andey

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



THANK YOU