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# IBM HACKATHON PROJECT

## FITNESS BUDDY

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**College Name & Department : RAGHU ENGINEERING COLLEGE &  
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:

- **NutritionAgent** – suggests healthy meals
- **FitnessAgent** – recommends workouts and motivational tips
- **PlannerAgent** – helps plan daily wellness routines

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# 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.

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## 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.

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## 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.

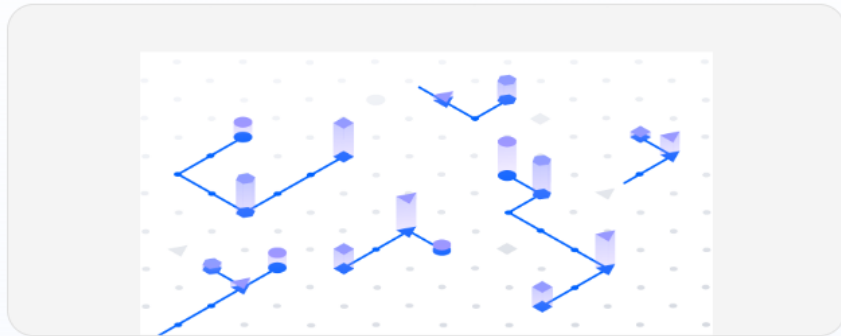
# RESULTS

## 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

Knowledge

Tools

Added tools (4)

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:

1. **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.

2. **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.

3. **Lean Proteins:** Include lean meats, poultry, fish, eggs, beans, and tofu. Protein is essential for growth and repair within the body.

4. **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.

5. **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

## Agent preview



You: 02:55 PM

Show me recent research on artificial intelligence.



Research Agent 02:55 PM

Here are some recent research articles and news on artificial intelligence:

1. **MIT News:** In a new study, researchers discover the root cause of a type of bias in LLMs, paving the way for more accurate and reliable AI systems. [Read more](#)
2. **arXiv:** Harnessing AI Agents to Advance Research on Refugee Child Mental Health. [Read more](#)
3. **Stanford HAI:** News on how artificial intelligence improves patient care and expands research capacity. [Read more](#)
4. **Journal of Artificial Intelligence Research:** Current Issue on machine learning, natural language, planning and scheduling, robotics and vision, and uncertainty in AI. [Read more](#)
5. **ScienceDaily:** A team of researchers has shown that even small-scale quantum computers can enhance machine learning performance. [Read more](#)
6. **McKinsey:** The latest McKinsey Global Survey on AI finds that organizations are beginning to take steps that drive bottom-line impact. [Read more](#)
7. **Apple Machine Learning Research:** Overview of the latest advancements in machine learning and artificial intelligence. [Read more](#)

Type something...



# 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

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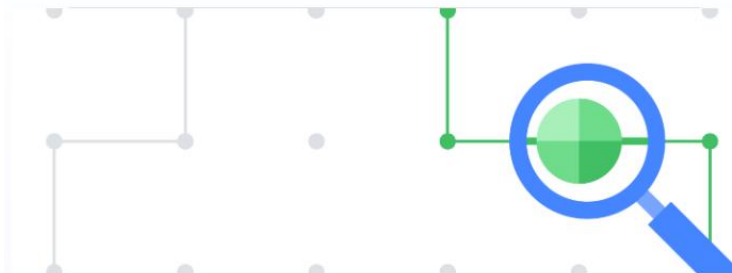
## Agent preview



PlannerAgent 09:43 PM

## Welcome to PlannerAgent

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



Type something...



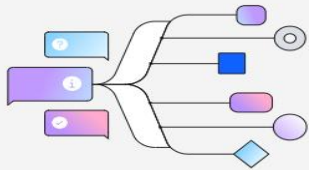
# RESULTS

## 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...



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## 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](https://github.com/Rohitha777/Agentic_AI)

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## 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



Issued on: Jul 18, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/ae64fb39-599f-412f-88dc-61b07da0e923>



7/25/25, 9:29 PM

Completion Certificate | SkillsBuild

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

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**