

# CAPSTONE PROJECT

## FITNESS BUDDY

**Presented By: IBM CLOUD**

**Student name: Harshdeep Barahate**

**College Name & Department :**

**Government College of Engineering Nagpur**

**Electronics & Telecommunication Engineering**

# 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, many individuals struggle to maintain a healthy lifestyle due to lack of personalized guidance, time constraints, and inconsistent motivation. Traditional fitness solutions often require expensive subscriptions, in-person consultations, or rigid schedules that don't adapt to personal preferences or daily routines. There is a growing need for an accessible, friendly, and intelligent virtual assistant that can provide on demand fitness advice, healthy lifestyle suggestions, and basic nutrition guidance—all tailored to individual needs and available at any time.

## Proposed Solution:

An AI powered Fitness Buddy aims to solve this problem by offering a conversational AI powered health and fitness coach by using IBM cloud lite services and IBM Gracity

---

# TECHNOLOGY USED

IBM cloud lite services

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

The Fitness Buddy AI agent primarily lies in its ability to deliver highly personalized, real-time, and engaging fitness experiences that go beyond basic automation. Key impressive features include:

- **Personalized Workout Plans and Adaptive Training:** The AI creates tailored, evolving workout routines based on user goals, progress, and preferences. It can adjust intensity dynamically during workouts, akin to having a virtual personal trainer who is responsive to how the user is doing in real time.
- **Real-Time Feedback and Coaching:** Some AI agents provide live form corrections and motivational cues, offering an immersive hands-free workout experience. This can feel like having a live coach guiding every rep and set, boosting motivation and results.
- **Comprehensive Guidance Beyond Workouts:** These AI agents often integrate nutrition planning, injury prevention tips, sleep optimization, and mental health advice, making them holistic fitness companions that adapt to the entire wellness journey.
- **Enhanced Member Engagement and Retention:** By recommending classes, sending personalized reminders, and offering gamified challenges, AI agents keep users engaged and motivated, increasing adherence and fitness outcomes.
- **Innovation and Differentiation:** The “wow” comes from delivering an experience that is not just functional but truly delightful—such as proactive problem-solving, conversational empathy, and seamless integration with wearables and gym systems. This makes the AI agent memorable and a competitive advantage in a crowded market.
- **Scalable and Cost-Effective Coaching:** AI fitness buddies can provide 24/7 accessible coaching through voice or apps, reducing the need for constant human trainer presence while still delivering high-quality guidance.
- **In short, the Fitness Buddy AI agent is its capacity to combine hyper-personalization with real-time interaction and holistic support, creating a smarter, engaging, and more motivating fitness experience that users feel is tailored uniquely to them and that evolves with their needs.**

# END USERS

- Fitness enthusiasts who want personalized workout plans, real-time coaching, and ongoing motivation.
- Beginners who need clear instructions, encouragement, and step-by-step progression to overcome barriers to starting a healthy routine.
- Busy professionals seeking flexible, on-demand fitness coaching that fits into their schedules.
- Individuals recovering from injuries or managing health conditions who benefit from safe, adaptive guidance tailored to their needs.
- People seeking holistic wellness—not just exercise advice, but also nutrition, sleep, and mental wellness suggestions delivered by a single virtual companion.
- Tech-savvy users who enjoy using integrated wearables, fitness apps, or smart home gyms that can be enhanced by an intelligent, interactive agent.

# RESULTS

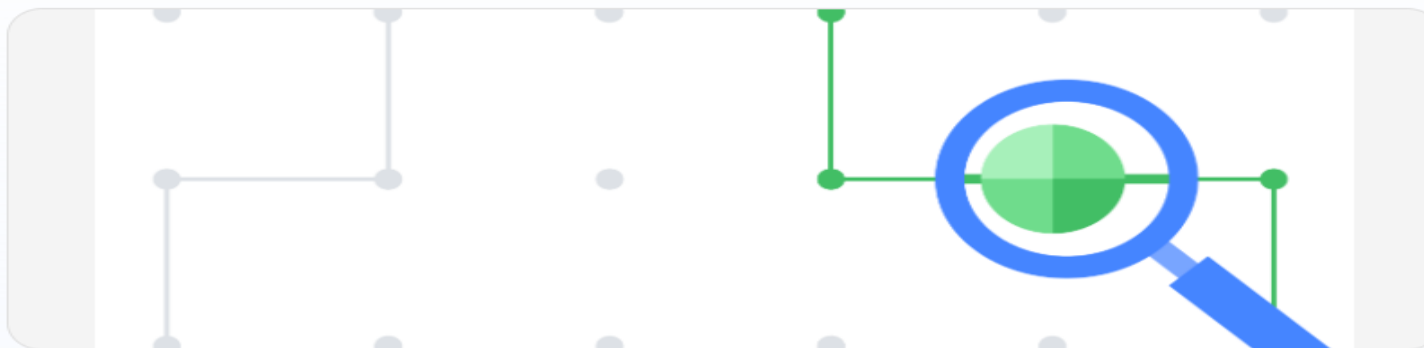
## Agent preview



Fitness Buddy 04:50 AM

### Welcome to Fitness Buddy

The agent is designed to help users to achieve their fitness goals through personalized workout plan



|Type something...





# RESULTS

## Agent preview



You: 04:46 AM

Provide motivational tips and daily fitness inspiration



Fitness Buddy 04:46 AM

Absolutely! Here's a motivational tip for you: Remember, fitness is a journey, not a destination. Every step you take, every workout you complete, brings you closer to your goals.

For daily inspiration, consider following fitness influencers on social media platforms like Instagram or YouTube. They often share their own fitness journeys, workout routines, and healthy recipes that can keep you motivated and inspired.

Also, setting small, achievable goals can help maintain your motivation. Celebrate each milestone you reach, no matter how small it may seem.

Lastly, remind yourself why you started. Whether it's to improve your health, boost your energy, or simply feel better in your own skin, keep that purpose at the forefront of your mind.

Now, let's discuss your fitness goals, current fitness level, available equipment, and any dietary preferences or restrictions to create a personalized workout and meal plan for you.

► How did I get this answer?



Type something...



# RESULTS

## Agent preview



You: 04:48 AM

suggest simple, nutritious meal ideas



Fitness Buddy 04:48 AM

Great! Here are some simple, nutritious meal ideas:

1. **Breakfast:** Greek yogurt with mixed berries and a sprinkle of granola.
2. **Lunch:** Quinoa salad with mixed vegetables, chickpeas, and a lemon-olive oil dressing.
3. **Dinner:** Grilled chicken breast with a side of steamed broccoli and sweet potato.
4. **Snacks:** A handful of almonds, apple slices with peanut butter, or carrot sticks with hummus.

Remember, these are just suggestions. Your meal plan should align with your specific fitness goals, caloric needs, and dietary restrictions. If you have any dietary preferences or restrictions, please let me know so I can tailor the meal plan accordingly.

Also, staying hydrated is crucial. Aim for at least 8 glasses of water per day.

Before starting any new diet plan, it's always a good idea to consult with a healthcare provider or a registered dietitian.

► How did I get this answer?

Type something...



# RESULTS

## Deployed AI Agent

The screenshot displays the IBM Watsonx web interface. The browser's address bar shows the URL: `dataplatfom.cloud.ibm.com/ml-runtime/deployments/a1dc53be-24de-4953-9411-39321bf2268d/chat?space_id=08379fcb-144b-41a9-88f9-9cfcb0c1dcee&context=wx&flush=true`. The interface includes a top navigation bar with the IBM Watsonx logo, an 'Upgrade' button, and user information for 'Harshdeep Barahate's Acc...'. Below this, a breadcrumb trail reads 'Deployment spaces / Fitness\_Buddy / Fitness Buddy /'. The main content area features a tabbed interface with 'API reference', 'Test', and 'Preview' tabs. The 'Preview' tab is active, showing a chat conversation with the 'Fitness Buddy' agent. The agent's status is 'Deployed' and 'Online'. The chat history shows a message from the agent at 05:45 AM: 'Sure, here are some simple and nutritious meal ideas:'. Below this, a list of four meal ideas is displayed: 1. **Breakfast:** Greek yogurt with mixed berries and a sprinkle of granola. This is high in protein, fiber, and antioxidants. 2. **Lunch:** Quinoa salad with grilled chicken or tofu (for vegans), cherry tomatoes, cucumber, olives, feta cheese (omit for vegan), dressed simply with olive oil and lemon juice. It's packed with lean protein and complex carbs for sustained energy release throughout the day. 3. **Dinner:** Baked salmon served alongside steamed broccoli and sweet potatoes mashes up well together providing good sources of omega-3 fatty acids from the fish, vitamins A & C from vegetables plus slow-release carbohydrates from sweet potatoes which help keep you full longer without spiking blood sugar levels too much post-meal. 4. **Snacks:** Hummus dip paired with raw veggies like bell peppers or carrots sticks; an apple slices spread thinly with almond butter offers a balance of healthy fats, proteins keeping hunger pangs at bay between main meals without adding excessive calories either! At the bottom of the chat area is a text input field with the placeholder 'Type something...' and a send button. On the right side of the interface, a sidebar titled 'About this deployment' provides details about the agent. It includes fields for 'Name' (Fitness Buddy), 'Description' (The agent is designed to help to achieve their fitness goals through personalized workout plans), 'Deployment Details' (Deployment ID: a1dc53be-24de-49..., Serving name: No serving name, Software specification: runtime-24.1-py3.11, Hardware specification: Extra extra small: 1 CPU and 2 GB RAM, Copies: 1), 'Tags' (wx-agent), and 'Associated asset' (Fitness Buddy).

IBM watsonx Upgrade ? Harshdeep Barahate's Acc... Dallas HB

Deployment spaces / Fitness\_Buddy / Fitness Buddy /

Fitness Buddy Deployed Online

API reference Test **Preview**

New chat +

Fitness Buddy 05:45 AM

Sure, here are some simple and nutritious meal ideas:

- Breakfast:** Greek yogurt with mixed berries and a sprinkle of granola. This is high in protein, fiber, and antioxidants.
- Lunch:** Quinoa salad with grilled chicken or tofu (for vegans), cherry tomatoes, cucumber, olives, feta cheese (omit for vegan), dressed simply with olive oil and lemon juice. It's packed with lean protein and complex carbs for sustained energy release throughout the day.
- Dinner:** Baked salmon served alongside steamed broccoli and sweet potatoes mashes up well together providing good sources of omega-3 fatty acids from the fish, vitamins A & C from vegetables plus slow-release carbohydrates from sweet potatoes which help keep you full longer without spiking blood sugar levels too much post-meal.
- Snacks:** Hummus dip paired with raw veggies like bell peppers or carrots sticks; an apple slices spread thinly with almond butter offers a balance of healthy fats, proteins keeping hunger pangs at bay between main meals without adding excessive calories either!

Type something...

**About this deployment**

**Name**  
Fitness Buddy

**Description**  
The agent is designed to help to achieve their fitness goals through personalized workout plans

**Deployment Details**  
Deployment ID: a1dc53be-24de-49...  
Serving name:  
No serving name.  
Software specification:  
runtime-24.1-py3.11  
Hardware specification:  
Extra extra small: 1 CPU and 2 GB RAM  
Copies:  
1

**Tags**  
wx-agent

**Associated asset**  
Fitness Buddy  
40a03dfe-48df-4e8d-8a4f-c8a27851a3e4

---

## CONCLUSION

- a Fitness Buddy AI agent represents a powerful advancement in digital wellness, offering highly personalized and adaptive support to users of all fitness levels.
- By acting as a virtual coach, it delivers tailored workout plans, real-time feedback, and holistic wellness guidance that spans nutrition, sleep, and motivation. Its ability to engage, motivate, and evolve with the user makes it a valuable companion for individuals seeking flexible, accessible, and effective fitness solutions.
- Ultimately, the Fitness Buddy AI agent stands out by making health improvement more enjoyable, sustainable, and attainable for a wide range of end users.

---

# FUTURE SCOPE

- Hyper-Personalization at Scale
- Predictive and Preventive Health
- Real-Time Feedback and Immersive Experiences
- Greater Accessibility and Inclusivity
- Holistic Wellness and Mental Health Integration
- Data-Driven Insights and Community Engagement

# IBM CERTIFICATIONS



# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Harshdeep Barahate

Has successfully satisfied the requirements for:

---

### Journey to Cloud: Envisioning Your Solution

---



Issued on: Jul 19, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/1adce5a4-b773-4cfe-ad82-4e09bf77fa3d>



7/26/25, 4:14 AM

Completion Certificate | SkillsBuild

**IBM SkillsBuild**

Completion Certificate



This certificate is presented to  
**Harshdeep Barahate**

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 26 Jul 2025 (GMT)

**Learning hours:** 20 mins

[https://skills.yourlearning.ibm.com/certificate/ALM-COURSE\\_3824998](https://skills.yourlearning.ibm.com/certificate/ALM-COURSE_3824998)

1/1





Github link: [https://github.com/HARSHDEEP1107/Fitness\\_Buddy\\_AI\\_Agent](https://github.com/HARSHDEEP1107/Fitness_Buddy_AI_Agent)

## GITHUB LINK

- [https://github.com/HARSHDEEP1107/Fitness\\_Buddy\\_AI\\_Agent](https://github.com/HARSHDEEP1107/Fitness_Buddy_AI_Agent)



**THANK YOU**