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# CAPSTONE PROJECT

## FITNESS BUDDY AI AGENT

**Presented By:**

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# OUTLINE

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

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# PROBLEM STATEMENT

Students, professionals, and individuals often find it difficult to maintain a healthy lifestyle due to busy schedules, lack of personalized fitness guidance, and low motivation. Managing workouts, diet, and wellness tracking manually is time-consuming and inconsistent.

Proposed Solution:

An AI-powered Fitness Buddy that uses IBM Watsonx.ai and Granite LLM to deliver personalized workout suggestions, healthy meal plans, motivational tips, and habit-building support — all through a smart conversational interface tailored to the user's goals and preferences.

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# TECHNOLOGY USED

- IBM cloud lite services
- IBM Granite Foundation Model
- Natural Language Processing (NLP)
- Prompt Engineering using AgentLab
- Web Search Tool integration

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## IBM CLOUD SERVICES USED

- IBM Watsonx.ai Studio
- IBM Watsonx.ai Runtime
- IBM Granite Foundation Model
- IBM Cloud Object Storage (Lite Plan)
- IBM Cloud Deployment Space

# WOW FACTORS

This agent will significantly improve users' health habits, save time in planning fitness routines, and help beginners stay consistent with workouts and nutrition. It empowers people to build a healthy lifestyle through smart, personalized AI coaching — without the need for any gym, trainer, or subscription.

Unique features:

Personalized fitness plans based on user inputs and preferences

Smart meal suggestions tailored to health goals (e.g., weight loss, energy)

Daily motivational tips to keep users focused and consistent

Provides accurate, real-time health information using online knowledge sources

Tracks user behavior and adjusts recommendations accordingly

Learns from user preferences to deliver more personalized fitness and nutrition support

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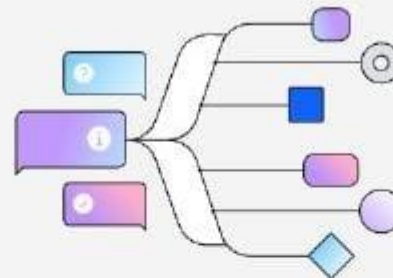
## END USERS

- Students in colleges and universities
- Educators and physical education instructors
- Working professionals in corporate environments
- Fitness beginners and hobbyists
- Health-conscious individuals and gym users
- Educational institutions promoting wellness programs

# RESULTS

## Agent preview

neatmy



## Sample questions

Can you make a weekly workout schedule for me?



What are some healthy vegetarian lunch ideas?



Give me a motivational tip to stay consistent with exercise.



How can I build a habit of exercising daily?




Type something...






# RESULTS

### Agent preview


 You: 12:06 PM

What are some easy home exercises I can start with as a beginner?

 Fitness Buddy 12:06 PM

Hello there! I'm Fitness Buddy, your virtual fitness coach. As a beginner, it's great that you're starting your fitness journey. Here are some simple exercises you can do at home:

- Walking or Jogging in Place:** This is a great cardio exercise to warm up. Start with a brisk walk and gradually increase your pace to a light jog.
- Push-ups:** Start with knee push-ups if regular ones are too challenging. Aim for 2 sets of 10 reps.
- Squats:** Stand with your feet hip-width apart, lower your body as if sitting in a chair, then stand back up. Do 2 sets of 15 reps.
- Planks:** Hold a plank position for 20-30 seconds. As you get stronger, aim for longer durations.
- Lunges:** Do 15 reps on each leg.
- Jumping Jacks:** This is another good cardio exercise. Aim for 3 sets of 20 reps.



# RESULTS

## Agent preview



You: 12:12 PM

hi



Fitness Buddy 12:12 PM

Hi there! I'm Fitness Buddy, your virtual fitness coach. How can I assist you today in reaching your fitness goals?

► How did I get this answer?



You: 12:12 PM

What are the health benefits of doing yoga daily?



Fitness Buddy 12:12 PM

Great question! Practicing yoga daily can offer numerous health benefits. It helps improve flexibility, strength, and balance. Yoga is also known to reduce stress and anxiety, as it combines physical postures, breathing exercises, and meditation. It can enhance your mood, improve sleep quality, and even boost your immune system. Remember, consistency is key, so aim to practice daily for the best results.

► How did I get this answer?



Type something...



# RESULTS

## Deployed AI Agent

The screenshot displays the IBM watsonx user interface. At the top, a dark navigation bar includes the 'IBM watsonx' logo, an 'Upgrade' button, and user account information for 'VIVEK SINGH's Account' in 'Dallas'. Below this, a breadcrumb trail shows 'Deployment spaces / Fitness Buddy / Fitness Buddy /'. The main content area features the 'Fitness Buddy' agent name with 'Deployed' and 'Online' status indicators. Three tabs are visible: 'API reference', 'Test', and 'Preview', with the 'Preview' tab selected. The chat window shows a user query at 11:55 AM: 'can you make a weekly workout schedule for me i am a beginner'. The agent's response, also at 11:55 AM, provides a beginner-friendly workout schedule that can be done at home without equipment. The response is structured with a heading 'Of course! Here's a simple, beginner-friendly workout schedule you can do at home without any equipment:', followed by 'Day 1:' and a bulleted list of exercises, and then 'Day 2:'. A text input field at the bottom of the chat window contains the placeholder text 'Type something...'. A 'New chat +' button is located in the top right corner of the chat area.

IBM watsonx Upgrade ? VIVEK SINGH's Account Dallas VS

Deployment spaces / Fitness Buddy / Fitness Buddy /

Fitness Buddy ✓ Deployed Online

API reference Test **Preview**

New chat +

**You 11:55 AM**  
can you make a weekly workout schedule for me i am a beginner

**Fitness Buddy 11:55 AM**  
Of course! Here's a simple, beginner-friendly workout schedule you can do at home without any equipment:

**Day 1:**

- Warm-up: 10 minutes of brisk walking in place or marching.
- Strength: Squats - 2 sets of 10 reps, Push-ups (on your knees if needed) - 2 sets of 8 reps, Plank - hold for 20-30 seconds, 2 times.
- Cardio: Jumping jacks - 3 sets of 20 reps.
- Cool down: 5 minutes of stretching.

**Day 2:**

Type something...

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## CONCLUSION

- The Fitness Buddy AI Agent serves as a virtual personal health coach, offering daily workout plans, nutritional guidance, and motivational tips through natural conversations.
- It saves time, removes the need for costly trainers or apps, and helps users build consistent, healthy habits.
- This solution aims to promote long-term healthy living by providing accessible and reliable fitness support for everyday users.

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## GITHUB LINK

- <https://github.com/123LUCIFER123/Fitness-Buddy-AI-Agent>

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# FUTURE SCOPE

- Multilingual Fitness Assistant for wider accessibility
- Voice-Enabled Workout and Meal Suggestions
- Integration with fitness wearables and health tracking devices
- Mental wellness and stress management features
- Real-time progress tracking and habit analytics
- Personalized workout plans based on user's medical history and goals

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## VIVEK SINGH

Has successfully satisfied the requirements for:

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### Getting Started with Artificial Intelligence

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professional excellence



## VIVEK SINGH

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### Journey to Cloud: Envisioning Your Solution

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# IBM CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

VIVEK SINGH

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 24 Jul 2025 (GMT)

**Learning hours:** 20 mins



**THANK YOU**