
IBM AICTE PROJECT

SMART FITNESS BUDDY

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OUTLINE

- Problem Statement
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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.

Proposed Solution:

Smart Fitness Buddy is a virtual AI-powered fitness coach built on IBM Cloud to deliver scalable, secure, and intelligent health support. The solution uses IBM Watsonx.ai and Granite language models to generate personalized workout and nutrition plans, motivational responses, and adaptive fitness recommendations based on user inputs.

TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

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

Personalized fitness and diet guidance using IBM Watsonx.ai with Granite foundation models.

Prompts are fine-tuned to deliver responses that match the user's tone, goals, and daily mood.

Automatically modifies workouts and meals based on performance, preferences, or schedule changes.

Deployed on IBM Cloud with scalable backend, object storage for user data, and optional App ID for authentication.

Designed for easy upgrades — future support for wearables, food photo analysis, voice interface, and more.

Goes beyond fitness with motivational messages, habit tracking.

END USERS

- Busy professionals who need quick fitness guidance without wasting time.
- Students and beginners seeking affordable, AI-based coaching instead of hiring trainers.
- Fitness enthusiasts who want smarter tracking, adaptive plans
- Seniors or wellness-focused users who need safe, guided routines

RESULTS

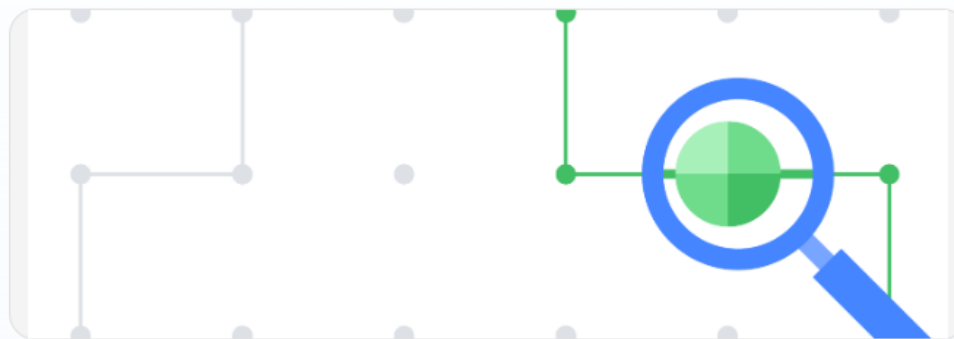
Agent preview



Smart Fitness Buddy 06:51 PM

Welcome to Smart Fitness Buddy

👋 Hey! I'm your Smart Fitness Buddy. Your 24/7 AI-powered Health & Fitness Coach



Type something...



RESULTS

Agent preview



You: 06:43 PM

Hi



Smart Fitness Buddy 06:43 PM

👋 Hello! How can I assist you with your fitness goals today?

► How did I get this answer?



You: 06:43 PM

How to gain my weight?



Smart Fitness Buddy 06:43 PM

👊 To gain weight healthily, focus on these key strategies:

1. **Increase Caloric Intake:** Consume more calories than you burn. Aim for a caloric surplus of 250-500 calories per day.
2. **Balanced Diet:** Focus on nutrient-dense foods like lean proteins (chicken, turkey, fish, eggs), complex carbs (whole grains, brown rice, sweet potatoes), and healthy fats (avocados, nuts, seeds, olive oil).
3. **Meal Frequency:** Eat 5-6 smaller meals throughout the day to increase your overall calorie intake.
4. **Strength Training:** Engage in resistance and strength training exercises to build muscle mass, which will contribute to weight gain.

Type something...



RESULTS

Agent preview

► How did I get this answer?



You: 12:11 PM

why chicken is best protein source



Nutrition Agent 12:11 PM

👤 Chicken is often considered one of the best sources of protein for several reasons:

1. **High Protein Content:** Chicken is rich in high-quality protein. A 3-ounce (85 grams) serving of roasted chicken contains about 26 grams of protein, which is approximately 52% of its total calories.
2. **Complete Protein:** Chicken is a complete protein source, meaning it contains all nine essential amino acids necessary for human health.
3. **Low in Fat:** Compared to red meat, chicken is generally lower in saturated fat. Skinless chicken breast is particularly lean, making it a heart-healthy choice.
4. **Versatile:** Chicken can be prepared in numerous ways and is used in a wide variety of dishes, making it easy to incorporate into a balanced diet.
5. **Nutrients:** Chicken also provides other essential nutrients, including niacin, vitamin B6 (pyridoxine), riboflavin, vitamin B12, iron, zinc, and selenium.
6. **Affordable:** Chicken is often more affordable than other sources of high-quality protein, such as red meat or fish.

While chicken is an excellent source of protein, it's essential to consume a variety of protein sources to ensure you're getting a broad spectrum of nutrients. Other sources like fish, lean beef, eggs, dairy, legumes, and nuts also provide high-quality protein and unique health benefits.

► How did I get this answer?



You: 12:13 PM

Type something...



RESULTS

Deployed AI Agent

IBM watsonx Upgrade

Deployment spaces / Smart_fitness_buddy / Smart Fitness Buddy /

Smart Fitness Buddy ✓ Deployed Online

API reference Test **Preview**

You 07:06 PM
make a diet plan

Smart Fitness Buddy 07:06 PM
Sure, I can help you create a basic diet plan. However, please note that for a personalized diet plan, it's best to consult with a registered dietitian or nutritionist. Here's a simple balanced meal plan to get you started:

Breakfast:

- Option 1: Greek yogurt with mixed berries and a sprinkle of granola
- Option 2: Scrambled eggs with spinach and whole grain toast

Mid-Morning Snack:

- Option 1: A piece of fruit like an apple or banana
- Option 2: A handful of nuts

Lunch:

type something...

CONCLUSION

- Smart Fitness Buddy is a powerful AI-driven fitness assistant designed to make health and wellness more accessible, personalized, and motivating.
- By leveraging IBM Cloud, Watsonx.ai, Prompt Lab, and Granite models, it delivers real-time, adaptive workout and nutrition guidance tailored to each user's lifestyle.
- It removes barriers like cost, time, and lack of expert support—turning smartphones into 24/7 fitness companions.

FUTURE SCOPE

- Expand accessibility with AI conversations and coaching in regional languages.
- Enable users to talk to their AI fitness coach hands-free.
- Integrate with Apple Watch, Fitbit, Google Fit, etc., for real-time activity and health data.
- Use image recognition to analyze user-submitted meal photos and provide instant nutrition feedback.
- Add stress tracking, breathing exercises, and mood-based fitness recommendations.

IBM CERTIFICATIONS

- (getting started with AI)



IBM CERTIFICATIONS

- (journey to cloud)

In recognition of the commitment to achieve professional excellence



Ruturaj Barik

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 24, 2025

Issued by: IBM SkillsBuild


Verify: <https://www.credly.com/badges/731f22b7-e11e-4347-bdaf-a0ea151229e8>



RAG LAB certificate:

IBM SkillsBuild

Completion Certificate



This certificate is presented to

Ruturaj Barik

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



Git hub link : <https://github.com/ruturaj45/Smart-Fitness-Buddy>



THANK YOU