
IBM Cloud PROJECT

FITNESSBUDDY

Presented By:

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Siksha 'O' Anusandhan, Bhubaneswar

MCA

OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Agent & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

Example: - 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

- Fitness Buddy aims to solve this problem by offering a conversational, AI-powered health and fitness coach that can recommend home workouts and routines based on user input
- Collect user input: fitness goals, age, gender, fitness levels; gather contextual.
- AI Agent: IBM Watson Assistant to capture and process user queries using google and other sources.
- Deployments: Deploy the solution on a scalable and reliable platform, considering factors like server infrastructure, response time, and user accessibility.
- Evaluation: Ask personalized fitness queries and AI Agent will answer that on a few parameter which the user has to respond to.

SYSTEM APPROACH

The "System Approach" section outlines the overall strategy and methodology for developing and implementing the rental bike prediction system. Here's a suggested structure for this section:

- System requirements: Windows 10 OS , 8GB RAM,
- Resources required on IBM cloud platform to run AI agent – Watsonx.ai Studio , cloud object storage, Watsonx.ai Runtime

AGENT & DEPLOYMENT

- **Data Input:**
 - Specify the input features used by the agent, such as age, food preferences(veg or non veg), any allergies, fitness goals.
- **Training Process:**
 - The agent is pre-designed by Watsonx.ai. It takes parameters as input and as per instructions responds to the user.
- **Prediction Process:**
 - It takes google, duckduckgo and Wikipedia as sources and answers accordingly.

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Windows taskbar showing search, task view, and various application icons (including Edge, File Explorer, and a red icon). System tray shows weather (29°C Haze), language (ENG IN), and time (08:47 PM, 03-08-2025).

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Agent Lab (beta) — Docs | IBM watso

watsonx Agent — FitnessBuddy

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Upgrade ? 🔔

Rashmiranjan Das's Account ▾

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RD ⋮

Projects / FitnessBuddy / watsonx Agent

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New agent +

Deploy 🔗 🔒 ⓘ

Build

AI Model: llama-3-3-70b-instruct ⌵ ⚙️ ⏪

Setup ⌵

Configuration ⌶

Framework Architecture

LangGraph ▾ ReAct ▾

Instructions [Advanced configuration](#)

motivation.

Suggest healthy meal ideas using simple, accessible ingredients and based on dietary preferences (e.g., vegetarian, high protein). Ask them the preference.

Knowledge ⌶

Vector index [Clear chat](#)

Select or create vector index ▾

If you want to add a vector index to the agent, clear the agent preview chat.

Tools ⌶

Add a tool Create custom tool

Added tools (3)

Agent preview

RD You: 08:47 PM

veg. no allergies or any other restriction. I want to build muscle.

🤖 watsonx Agent 08:47 PM

As a vegetarian looking to build muscle, it's essential to focus on a calorie-surplus diet that includes a variety of protein sources, complex carbohydrates, and healthy fats.

Here are some general tips to help you build muscle on a vegetarian diet:

1. Eat enough protein: Aim for 1.2-1.6 grams of protein per kilogram of body weight from sources like legumes, beans, lentils, tofu, tempeh, and seitan.
2. Include complex carbohydrates: Focus on whole grains like brown rice, quinoa, whole wheat bread, and whole grain pasta, as well as fruits and vegetables.
3. Healthy fats are essential: Nuts, seeds, avocados, and olive oil are all great sources of healthy fats.
4. Don't forget about calories: To build muscle, you need to be in a calorie surplus, meaning you need to consume more calories than you burn. Aim for an additional 250-500 calories above your maintenance level.

Some examples of high-protein vegetarian foods include:

- Lentils (18g of protein per 1 cup cooked)
- Chickpeas (15g of protein per 1 cup cooked)
- Black beans (15g of protein per 1 cup cooked)
- Tofu (20g of protein per 3 oz serving)
- Tempeh (15g of protein per 3 oz serving)

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Agent preview

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Tools

Add a tool

Create custom tool

Added tools (3)

- Tempeh (15g of protein per 3 oz serving)

Here's an example of what your daily meal plan could look like:

- Breakfast: Oatmeal with banana, almond milk, and walnuts (400 calories, 20g protein)
- Snack: Apple slices with peanut butter (150 calories, 8g protein)
- Lunch: Lentil soup with whole grain bread and a side salad (500 calories, 20g protein)
- Snack: Greek yogurt with berries and honey (200 calories, 15g protein)
- Dinner: Grilled tofu with quinoa and roasted vegetables (500 calories, 25g protein)
- Before bed snack: Cottage cheese with cucumber slices (150 calories, 20g protein)

Remember to stay hydrated by drinking plenty of water throughout the day.

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► How did I get this answer?

RD You: 08:48 PM

any more tips

watsonx Agent 08:48 PM

Here are some additional tips to help you build muscle on a vegetarian diet:

1. **Eat frequently:** Aim for 5-6 meals per day, spaced out every 2-3 hours, to keep your muscles fueled and support growth.
2. **Choose high-calorie foods:** Include calorie-dense foods like nuts, seeds, avocados, and dried fruit to help you meet your daily calorie needs.

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Build



Model: llama-3-3-70b-instruct ▾



Setup

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Framework

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[Advanced configuration](#)

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Tools

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Agent preview

foods, consider adding supplements like protein powder, creatine, or branched-chain amino acids (BCAAs) to your diet.

6. **Eat enough healthy fats:** Healthy fats like omega-3s and omega-6s support hormone production and overall health. Include sources like nuts, seeds, avocados, and olive oil in your diet.
7. **Stay hydrated:** Drink plenty of water throughout the day to stay hydrated and support muscle growth.
8. **Be patient:** Building muscle takes time and consistency. Stick to your diet and training plan, and you'll see results over time.
9. **Get enough vitamin D:** Vitamin D is essential for muscle growth and overall health. Include vitamin D-rich foods like fortified plant milk, mushrooms, and sunlight exposure in your diet.
10. **Consult a professional:** If you're new to vegetarianism or muscle building, consider consulting a registered dietitian or a certified personal trainer to help you create a personalized plan.

Some additional vegetarian foods that are high in protein and calories include:

- Seitan (21g of protein per 3 oz serving)
- Veggie burgers (10-15g of protein per patty)
- Meat alternatives like Beyond Meat or Impossible Foods (10-15g of protein per serving)
- Protein-fortified plant milk (8-10g of protein per cup)
- Nut butters like peanut butter or almond butter (8g of protein per 2 tbsp serving)

Remember to always choose whole, minimally processed foods whenever possible, and supplement with fortified foods or supplements as needed.

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CONCLUSION

- **FitnessBuddy**, powered by **IBM watsonx.ai**, is more than just a chatbot—it's a personalized wellness companion designed to inspire, guide, and support users on their health journey. With capabilities ranging from tailored workout suggestions and healthy meal ideas to motivational coaching and habit tracking, it delivers a holistic approach to fitness.
- By leveraging IBM Cloud and AI services, FitnessBuddy provides intelligent, real-time, and empathetic interactions that adapt to each user's lifestyle. Whether you're just starting out or staying consistent, FitnessBuddy ensures that every step toward your goal feels achievable, personalized, and rewarding.

FUTURE SCOPE

- As *Fitness Buddy* evolves, it can expand far beyond its initial capabilities. Future developments may include:
- **Integration with Wearables**
Connect with smartwatches and fitness bands to monitor real-time data like heart rate, steps, sleep patterns, and suggest live adjustments.
- **Personalized AI Coach Avatars**
Deploy AI avatars with voice and facial expressions to simulate real-time coaching, enhancing user motivation and engagement.
- **Mental Wellness Companion**
Extend support to mental health with guided meditations, mood tracking, and emotional wellness tips. **Voice Assistant Integration**
Enable hands-free support through Alexa, Google Assistant, or Siri for quick tips, workouts, or meal suggestions.
- **Advanced Nutrition Planner**
Use AI to auto-generate weekly meal plans based on dietary preferences, allergies, and fitness goals.
- **Multilingual Support**
Expand global reach by supporting multiple languages to cater to diverse user groups.

REFERENCES

- IBM cloud docs and the course recordings.

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THANK YOU