
CAPSTONE PROJECT

PROJECT TITLE: FITNESS BUDDY

Presented By:

**1. Amit Dineshwar Patle- Government College of Engineering,
Jalgaon- Computer Engineering**

OUTLINE

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

PROBLEM STATEMENT

Example: The challenge - 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 is an AI-powered virtual coach that:

- Suggests daily home workouts based on user input
- Gives motivational tips and reminders
- Recommends easy, healthy meal plans
- Helps users build good habits step by step
- Works 24/7 as a friendly chat assistant

SYSTEM APPROACH

IBM Cloud Lite Services: Cloud hosting, storage

IBM Granite Model: For natural language conversation and personalized suggestions

IBM Watson Assistant: For chatbot interface

Frontend: Simple mobile or web app

ALGORITHM & DEPLOYMENT

- Algorithm:

- Collect basic user input: age, goal, health condition, diet type
- Use Granite LLM to generate personalized workout and meal plans
- Use Watson Assistant for friendly conversation
- Save user preferences in cloud storage

- Deployment:

- Hosted on IBM Cloud Lite
- Accessible on web or mobile
- Daily reminders sent using Cloud Functions

RESULT

IBM watsonx

[Upgrade](#)



Amit Patle's Account ▾

Dallas ▾

AP

Create a project

Start with a new, blank project or select from where to import an existing project.

+ New

Local file

Sample

Define details

Name

Fitness_Project

Description (optional)

AI based virtual Fitness coach.

Tags (optional)

Add tags

Add tags to make projects easier to find. To add tags, separate them with commas and press Enter.

Storage

Cloud Object Storage-hz

Project includes integration with [Cloud Object Storage](#) for storing project assets.

Cancel

Create

RESULT

Projects / Fitness_Project / Agent Lab

[Share feedback](#)



Unsaved



[New agent +](#)

[Deploy](#)



Build



Model: llama-3-3-70b-instruct



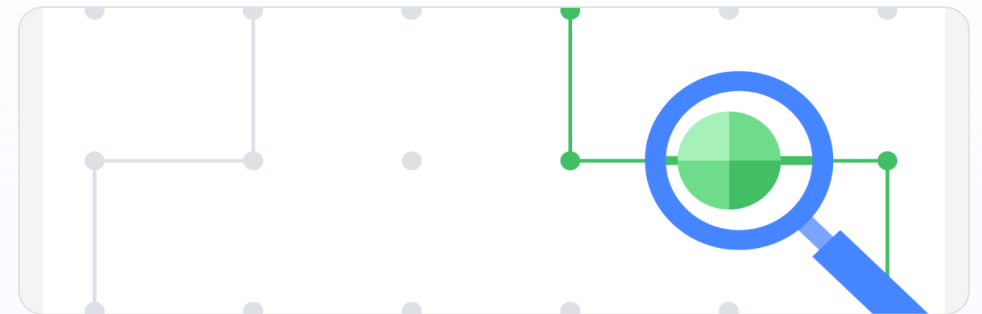
Agent preview



watsonx Agent 11:24 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent



Type something...



Setup



Configuration



Framework

Architecture

LangGraph



ReAct



Instructions

[Advanced configuration](#)

An fitness model to help with suggestions when a person when provides his/her age, fitness goal (lose weight, build muscle, stay active), Time available, heath issues, daily plan, simple meals, daily motivation quotes.

Knowledge



Tools



[Add a tool](#)

[Create custom tool](#)

Added tools (5)

Google search



RESULT

Projects / Fitness_Project / Agent Lab

[Share feedback](#)

β

Unsaved

📁

▼

[New agent](#) +

[Deploy](#)



Build

AI

Model: llama-3-3-70b-instruct



Tools

[Add a tool](#)

[Create custom tool](#)

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.



DuckDuckGo search

Retrieve information from the internet with the DuckDuckGo search engine.



Wikipedia search

Retrieve information from Wikipedia articles.



Webcrawler

Retrieve information from a website.



Weather

Retrieve the weather of a city.



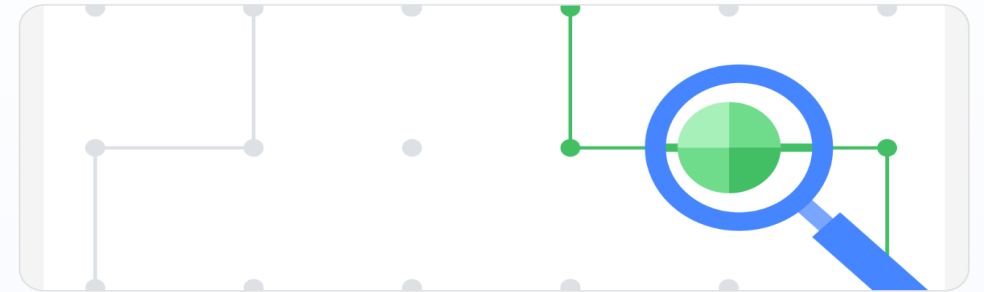
Agent preview



watsonx Agent 12:07 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent



Type something...



RESULT

IBM watsonx

Upgrade



Amit Patle's Account

Dallas

AP

Projects / Fitness_Project / Agent Lab

Share feedback



Unsaved



New agent +

Deploy



Build



Model: llama-3-3-70b-instruct



Setup



Configuration



Framework

Architecture

LangGraph



ReAct



Instructions

[Advanced configuration](#)

An fitness model to help with suggestions when a person when provides his/her age, fitness goal (lose weight, build muscle, stay active), Time available, heath issues, daily plan, simple meals, daily motivation quotes.

Knowledge



Tools



Add a tool

Create custom tool

Added tools (5)

Google search



Agent preview



You: 11:25 PM

my age is 21 can you provide me with fitness goal of how to stay active, daily plan.



watsonx Agent 11:25 PM

Based on the search results, it appears that there are various ways to stay active and achieve fitness goals, depending on individual preferences and lifestyles. Here are some suggestions:

1. Set achievable daily goals: Consider setting daily goals that are realistic and achievable, such as closing your activity rings or reaching a certain number of steps.
2. Find activities you enjoy: Engage in physical activities that you enjoy, such as walking, running, swimming, or cycling, to make exercise more enjoyable and increase motivation.
3. Incorporate strength training: Incorporate strength training exercises into your routine to improve overall fitness and health.
4. Aim for 30 minutes of exercise per day: Aim for at least 30 minutes of moderate-intensity exercise per day, such as brisk walking, to improve cardiovascular health.
5. Consider a fitness tracker: Consider using a fitness tracker or smartwatch to track your progress and stay motivated.
6. Make it a habit: Make physical activity a habit by incorporating it into your daily routine, such as taking a walk during your lunch break or doing a home workout in the morning.

7. Find a workout buddy: Find a workout buddy or join a fitness community to increase

Type something...



RESULT

[Projects](#) / [Fitness_Project](#) / Agent Lab

[Share feedback](#) β Unsaved New agent + Deploy

Build

AI

Model: llama-3-3-70b-instruct

×

<

Setup

Configuration

Framework

Architecture

Instructions

Knowledge

Tools

Added tools (5)

Google search

LangGraph

ReAct

Advanced configuration

An fitness model to help with suggestions when a person provides his/her age, fitness goal (lose weight, build muscle, stay active), Time available, health issues, daily plan, simple meals, daily motivation quotes.

Add a tool

Create custom tool

Model parameters

!

You can edit parameters only when the conversation has been cleared in chat mode.

Clear chat

Frequency penalty

-2

2

0

Presence penalty

-2

2

0

Temperature

0

2

0

Top P (nucleus sampling)

0.01

1

1

Max tokens

100

Random seed

Agent preview

AP

You: 11:32 PM

motivating verses from bhagvad gita to stay focused and determined.

watsonx Agent 11:32 PM

Here are some motivating verses from the Bhagavad Gita to help you stay focused and determined:

1. "You have the right to work, but for the work's sake only. You have no right to the fruits of work." - Bhagavad Gita, Chapter 2, Verse 47

2. "The one who has control over the mind, and senses, and has realized the Self, is eligible to attain the state of supreme peace and liberation." - Bhagavad

► How did I get this answer?

↺

Type something...

↵

RESULT

IBM watsonx

Upgrade

?

Amit Patle's Account

Dallas

AP

Projects / Fitness_Project / watsonx Agent

Share feedback

Autosaved 11:37 PM

New agent +

Deploy

Build

AI Model: mistral-large

Setup

Configuration

Framework

LangGraph

Architecture

ReAct

Instructions

Advanced configuration

An fitness model to help with suggestions when a person provides his/her age, fitness goal (lose weight, build muscle, stay active), Time available, health issues, daily plan, simple meals, daily motivation quotes.

Knowledge

Tools

Add a tool

Create custom tool

Added tools (5)

Google search

Agent preview

AP You: 11:39 PM

Tell me about fitness, goals and proper diet for a 21 year old boy.

watsonx Agent 11:39 PM

Here are some resources that might help you:

1. [How fit are you? See how you measure up - Mayo Clinic](#)

2. [Target Heart Rates Chart | American Heart Association] (<https://www.heart.org/en/healthy-living/f>

► How did I get this answer?

Type something...

RESULT

IBM watsonx

Upgrade



Amit Patle's Account

Dallas

AP

Deployment spaces / Nutrition_Agent_2 / watsonx Agent /



watsonx Agent ✓ Deployed Online

API reference

Test

Preview

New chat +



You 12:04 AM

my age is 21 please provide me with fitness plan to stay fit and active.



watsonx Agent 12:04 AM

Here is a fitness plan for a 21-year-old to stay fit and active:

1. **Target Heart Rates:** Aim for a target heart rate of 100-120 beats per minute during moderate-intensity exercise, such as brisk walking, cycling, or swimming. You can use a heart rate monitor or calculate your target heart rate using the American Heart Association's chart.
2. **Stay Active:** Engage in at least 150 minutes of moderate-intensity aerobic exercise, or 75 minutes of vigorous-intensity aerobic exercise, or a combination of both, per week. You can also incorporate strength training exercises, high-intensity interval training (HIIT), and other forms of physical activity to keep things interesting and prevent plateaus.
3. **Incorporate Variety:** Mix up your routine with different types of exercises, such as cardio, strength training, and flexibility exercises. This will help keep you motivated and prevent overuse injuries.
4. **Schedule It In:** Treat exercise as a non-negotiable part of your daily routine, just like brushing your teeth or taking a shower. Find a time that works for you and stick to it.
5. **Find an Exercise Buddy:** Having someone to hold you accountable and share the experience with can make exercise

Type something...



CONCLUSION

- Fitness Buddy helps busy people stay fit easily at home. It gives personal guidance, simple workouts, meal ideas, and daily motivation. It is cost-effective, always available, and easy to use.

FUTURE SCOPE

- Add voice assistant feature Connect with fitness wearables (step count, heart rate)
- Multi-language support (Hindi, Marathi, etc.)
- Add AI health tips based on user progress
- Community challenges and leaderboard

REFERENCES

- IBM Cloud Lite documentation
- IBM Granite model documentation
- Watson Assistant official docs

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Amit Patle

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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

Verify: <https://www.credly.com/badges/0bc729a1-5c02-430d-b035-a37f4db6cb30>



IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



Amit Patle

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 20, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/9980b87d-af09-4f3b-b1cf-94dc6b750ca2>



IBM CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Amit Patle

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