CAPSTONE PROJECT

FITNESS BUDDY

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Information Technology



OUTLINE

- Problem Statement
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- Wow factor
- End users
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- 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.

Proposed Solution:

Fitness Buddy that uses Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), is an Al-powered virtual health coach designed to help users achieve their fitness goals through personalized workout recommendations, nutrition guidance, and motivational support. It leverages IBM Cloud Lite services and IBM Granity to deliver a scalable, intelligent, and user-friendly experience.



TECHNOLOGY USED

Technologies	Purpose
IBM Cloud lite services	Serverless functions for dynamic responses
IBM Watson Assistant	Chatbot for user interaction
Natural Language Processing (NLP)	Enables chatbot to understand and respond to user queries in a natural, conversational way.
Retrieval Augmented Generation (RAG)	Combines document retrieval with generative AI to provide accurate, informative, and personalized responses.
IBM Granite model	Context-aware recommendations and insights



IBM CLOUD SERVICES USED

- IBM Cloud Watsonx Al Studio
- IBM Cloud Watsonx Al runtime
- IBM Cloud Agent Lab
- IBM Cloud Object Storage(Lite)
- IBM Granite foundation model(Granite-3-3-8b-instruct)



WOW FACTORS

- Hyper-Personalized Recommendations Tailors workouts and meals to your unique goals and lifestyle.
- Smart Conversations with NLP & RAG Understands natural language and delivers accurate, relevant health advice.
- No Equipment? No Problem! Offers effective workouts you can do anytime, anywhere, without gear.
- Daily Motivation & Habit Nudges Keeps you inspired and consistent with reminders, quotes, and challenges.
- Instant Meal Ideas Based on What You Have Suggests healthy recipes using ingredients already in your kitchen.
- Seamless Integration with IBM Cloud & Granity Runs on a secure, scalable platform with smart contextual insights.
- Available 24/7 No Appointments Needed Always accessible for support, guidance, and motivation.
- Friendly, Conversational Personality Feels like chatting with a supportive, knowledgeable fitness buddy.



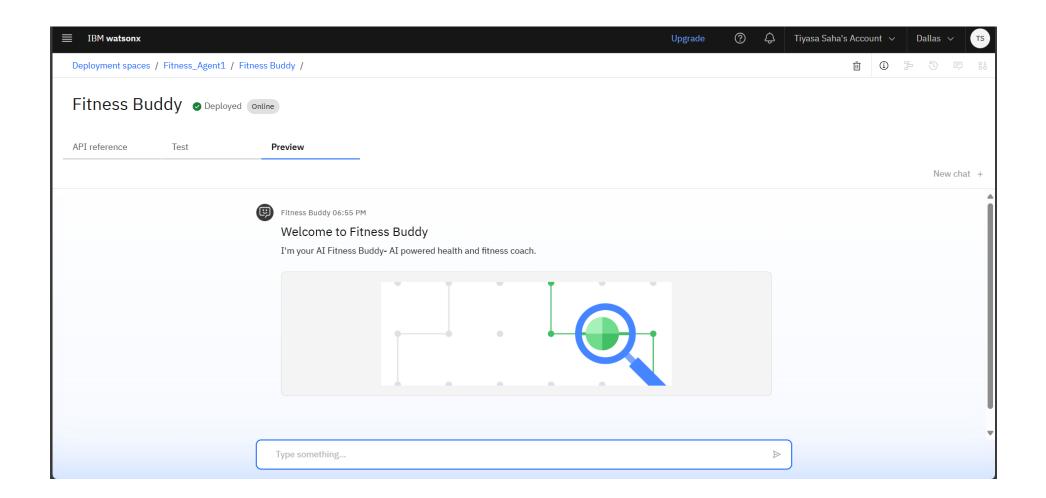
END USERS

- Busy Professionals Need quick, efficient fitness and nutrition support that fits into tight schedules.
- Students Seek affordable, easy-to-follow workouts and meal ideas to stay healthy on a budget.
- Health-Conscious Seniors Prefer gentle, guided routines and personalized wellness advice.
- Fitness Enthusiasts & Beginners Want structured plans, progress tracking, and motivational coaching.
- Home Workout Users Rely on gear-free, space-friendly exercises they can do anytime.
- Weight Loss & Nutrition Seekers Look for personalized diet tips, calorie tracking, and habit support.
- **Remote or Underserved Users** Benefit from accessible, 24/7 health guidance without needing a gym or trainer.



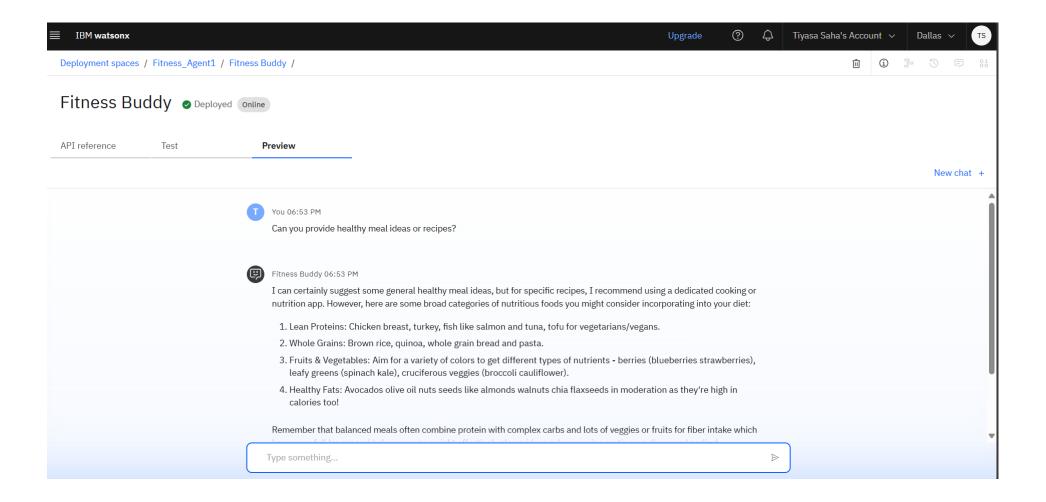
RESULTS

Deployed Al Agent



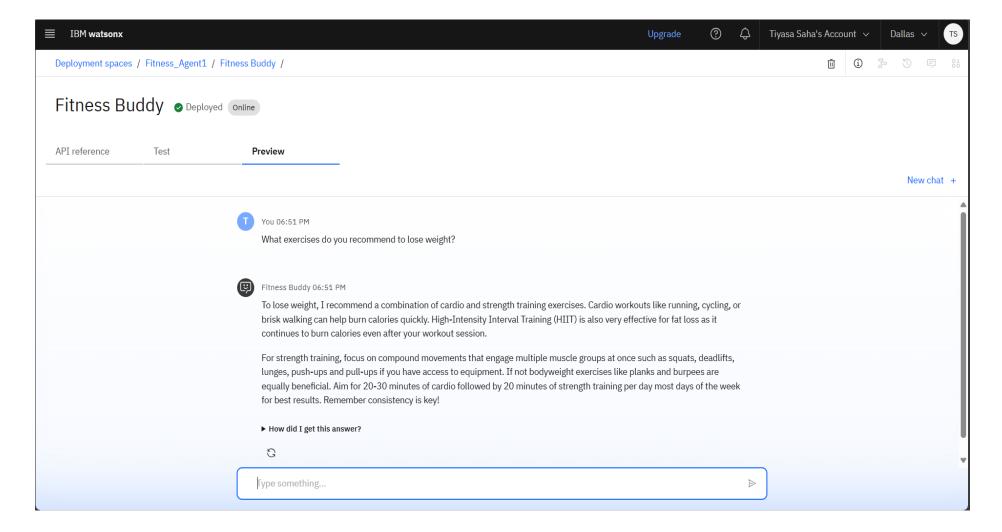


RESULTS





RESULTS





CONCLUSION

- User-Centric Design: Fitness Buddy provides personalized health and fitness guidance tailored to individual goals and preferences.
- AI-Powered Coaching: Utilizes NLP and Retrieval-Augmented Generation (RAG) to deliver intelligent, conversational support.
- Cloud-Native Architecture: Built on IBM Cloud Lite and Granity for scalability, reliability, and ease of deployment.
- Always Available: Offers 24/7 access to fitness tips, routines, and motivation—anytime, anywhere.
- Engaging Experience: Combines smart recommendations with friendly interaction to boost user engagement and habit formation.
- Scalable & Adaptable: Designed to grow with user needs and integrate future enhancements seamlessly.



GITHUB LINK

<u>Tiyasa7/Fitness-Buddy: Fitness Buddy that uses Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), is an Al-powered virtual health coach designed to help users achieve their fitness goals through personalized workout recommendations, nutrition guidance, and motivational support. It leverages IBM Cloud Lite services and IBM Granity.</u>



FUTURE SCOPE

- Integration with wearables
- Voice assistant support
- Advanced health insights using predictive analytics
- Multilingual support
- Gamification features
- Integration with nutrition APIs
- Al-powered mental wellness support



IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



Tiyasa Saha

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Mar 04, 2025 Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/77226889-6812-4d1f-83b8-65d8e06ad2d1





IBM SkillsBuild

Completion Certificate



This certificate is presented to

Tiyasa Saha

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

