
PROBLEM STATEMENT NO 13 : FITNESS BUDDY- AN AI-POWERED PERSONAL HEALTH ASSISTANT

**Presented By:
Tamilarasan Subramani – J.K.K. Natraja College of Engineering and Technology – CSE**

OUTLINE

- **Problem Statement**
- **Proposed System/Solution**
- **System Development Approach**
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
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- **References**

PROBLEM STATEMENT

- In today's fast-paced world, individuals often struggle to maintain a healthy lifestyle due to lack of personalized guidance, time constraints, and inconsistent motivation. Traditional fitness solutions require costly subscriptions, rigid schedules, or in-person consultations that may not fit into everyone's daily routine.
- There is a growing need for an intelligent, accessible, and friendly virtual assistant that offers real-time fitness advice, motivational support, and basic nutritional guidance—tailored to each individual's needs and available anytime, anywhere.

PROPOSED SOLUTION

- To address the challenges of maintaining a healthy lifestyle in a fast-paced world, we propose **Fitness Buddy**, an AI-powered virtual health assistant that offers personalized support to individuals at any time.
- **Fitness Buddy** is designed to interact with users through a conversational interface and provide the following features:
- **Customized home workout recommendations** based on user preferences, fitness levels, and goals.
- **Motivational tips and daily quotes** to encourage consistency and build healthy habits.
- **Simple, nutritious meal suggestions** to support a balanced diet without requiring complex preparation.
- **Interactive conversation flow** that adjusts based on user input, ensuring a personalized experience.
- **24/7 accessibility** through a web-based chat interface, removing the need for physical presence or scheduled consultations.
- The system is built using **IBM Watson Assistant** and hosted on **IBM Cloud Lite**, ensuring a cost-effective, scalable, and reliable deployment. The assistant uses **Natural Language Processing (NLP)** to understand user queries and respond accordingly.
- The solution removes the need for expensive gym subscriptions or rigid fitness plans, providing users with instant guidance, motivation, and nutritional support in a flexible and user-friendly way.
- By combining AI with health and wellness knowledge, Fitness Buddy aims to be a smart companion in every user's fitness journey—accessible anytime, anywhere.

SYSTEM APPROACH

- Cloud-Based Only – IBM Services Used:
- IBM Watson Assistant – Conversational AI
- IBM Cloud Functions – Custom Python logic (optional)
- IBM Granity (optional) – Advanced personalization
- Twilio Integration – For WhatsApp deployment

ALGORITHM & DEPLOYMENT

- Intent Recognition: Watson identifies goal (workout, meal, etc.)
- Condition Flow: Based on responses (e.g., “weight loss”), the bot triggers the right step
- Response Selection: Static logic or IBM Cloud Functions (Python) can be used to generate answers dynamically
- Variables: Used for name, fitness goal, preferences, etc.
- Build and test all actions in Watson Assistant.
- Use preview to verify response flows.
- Publish the Assistant (Create Version).
- Integrate via channels like WhatsApp (Twilio).
- No hosting or external deployment required—everything is on IBM Cloud.

RESULT

■ Actions Created:

The screenshot displays the IBM Watson Assistant console interface. The browser address bar shows the URL: `eu-gb.assistant.watson.cloud.ibm.com/crm%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2Fd7d89776c66...`. The page title is "IBM Watson Assistant" and the sub-header is "Fitness Buddy b...". The main content area is divided into two panels: "Editor" and "Visualization".

Editor Panel:

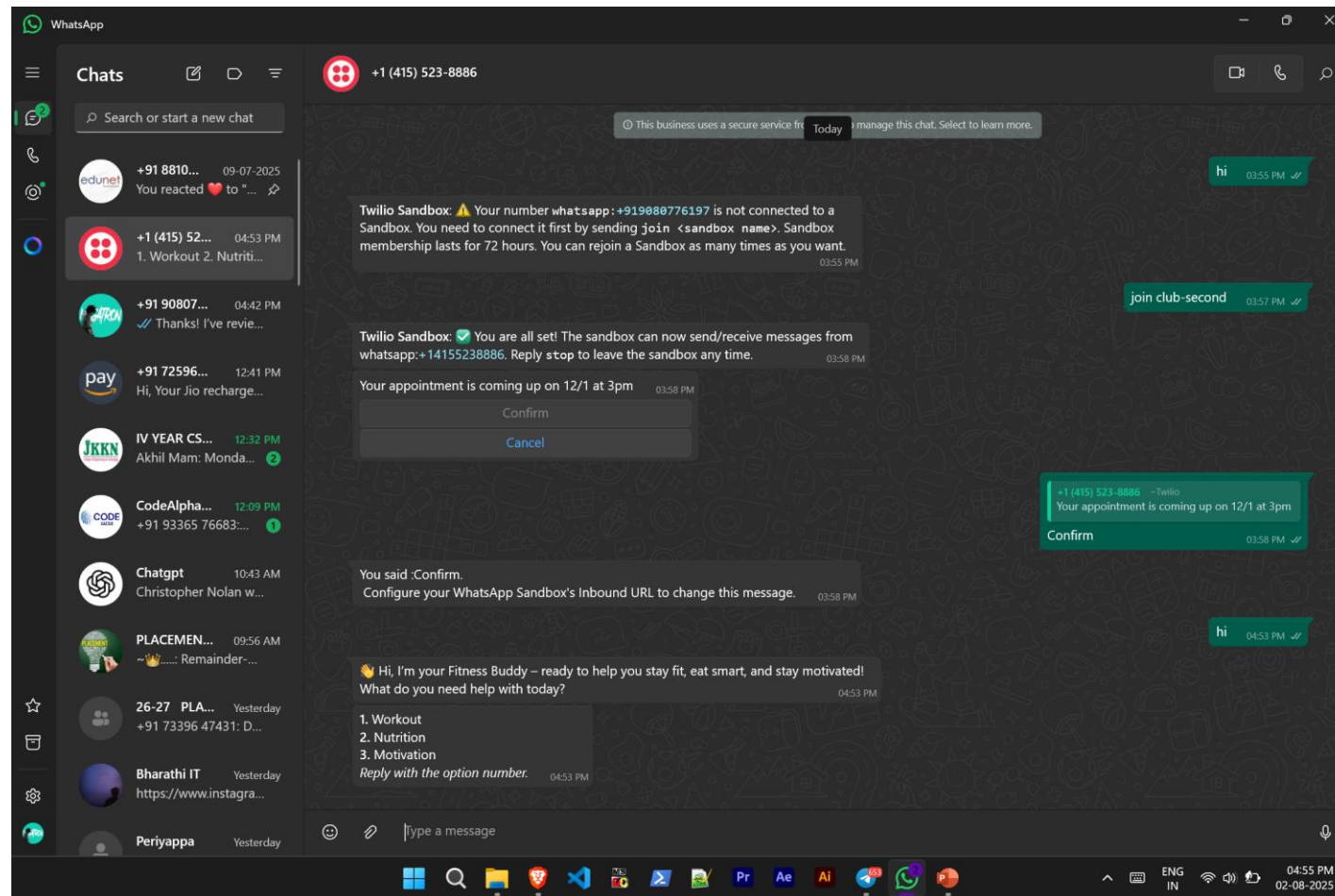
- Customer starts with:** A dropdown menu showing "Hi buddy".
- Conversation steps:** A list of steps for the conversation action.
 - Step 1: "Hi, I'm your Fitness Buddy - ready to help you stay fit, eat smart, and stay motivated! What do yo...". It includes a "Workout" button and a "+1" button. A "Continue to next step" link is below.
 - Step 2: "Great! What's your fitness goal?". It includes "Weight loss" and "Flexibility" buttons, and a "+2" button. A "Continue to next step" link is below.
 - Step 3: "### Fitness Buddy: General Fitness (3-5x/week, 30-45 mins) ### 1. Dynamic Warm-Up (5 mins) ...". A "Continue to next step" link is below.
 - Step 4: "### Strength & Mobility Circuit (3 rounds, 30 sec rest between exercises) | Exercise (Duration/Reps...". A "Continue to next step" link is below.
 - Step 5: "Try this 15-minute beginner workout (no equipment): 2 mins Jumping Jacks 3 sets o...". It includes a "Next" button.
- New step:** A button with a plus icon to add a new step.

Visualization Panel:

- Display name:** A section with a description: "Set a display name to overwrite the action title that appears as the button text in disambiguation." It includes a text input field with the value "Get help on ACME bill".
- Add example phrases:** A section with a description: "Enter phrases that a customer types or says to start the conversation about a specific topic. These phrases determine the task, problem, or question your customer has. The more phrases you enter, the better your assistant can recognize what the customer wants." It includes a text input field with the value "Enter a phrase" and a "Total: 5" indicator.
- Example phrases list:** A list of phrases with a delete icon (X) next to each:
 - Reminder
 - Task
 - Hello
 - Hi
 - Hi buddy
- Preview:** A button with a play icon to preview the action.

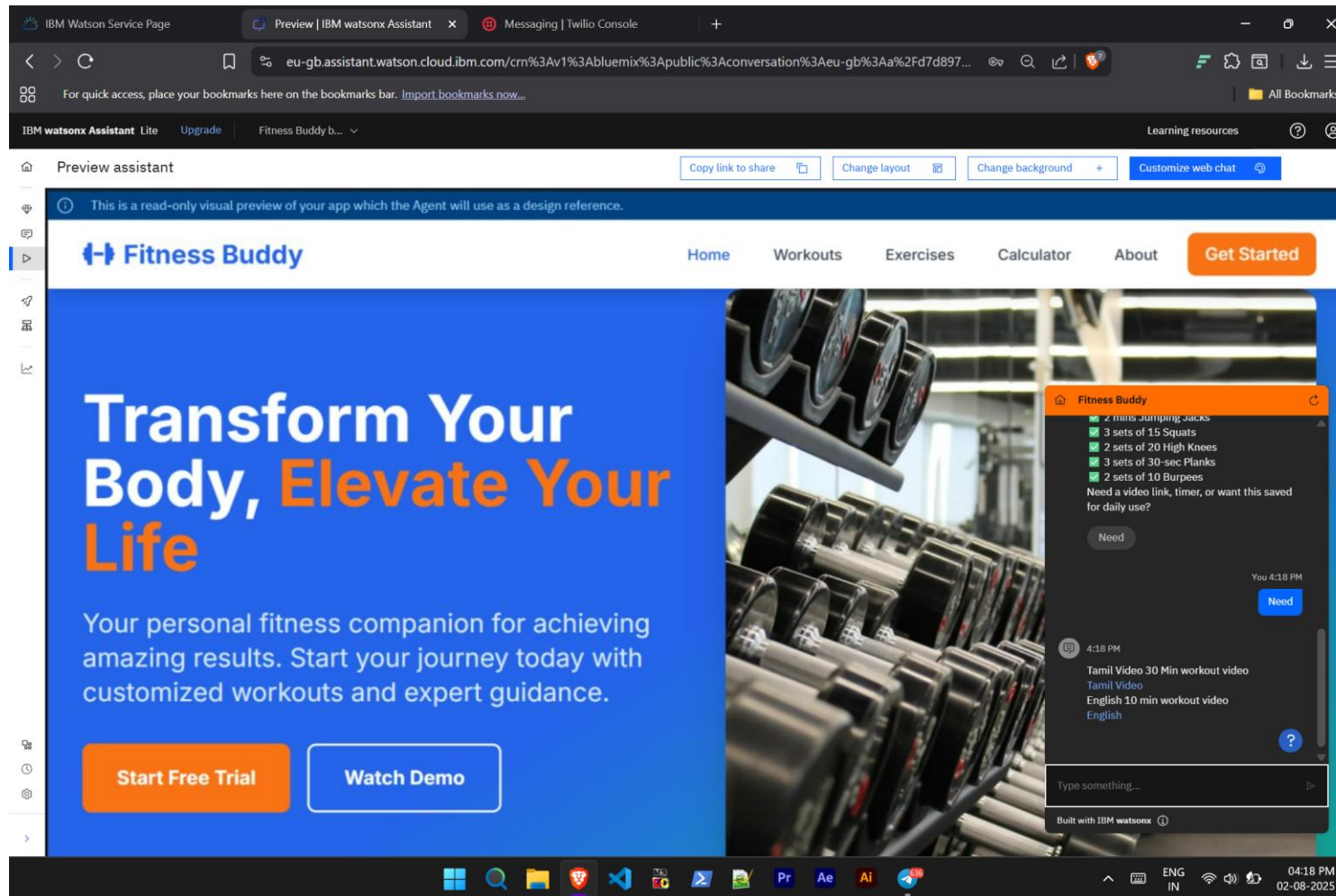
RESULT

- Chatbot greeting and asking for “HI” with WhatsApp interaction test



RESULT

- Workout suggestion flow



RESULT

- Meal suggestion example

The screenshot displays the IBM Watson Assistant interface in a web browser. The browser's address bar shows the URL: `eu-gb.assistant.watson.cloud.ibm.com/crm%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2Fd7d89776c66e4be...`. The interface is titled "IBM watsonx Assistant Lite" and "Fitness Buddy b...".

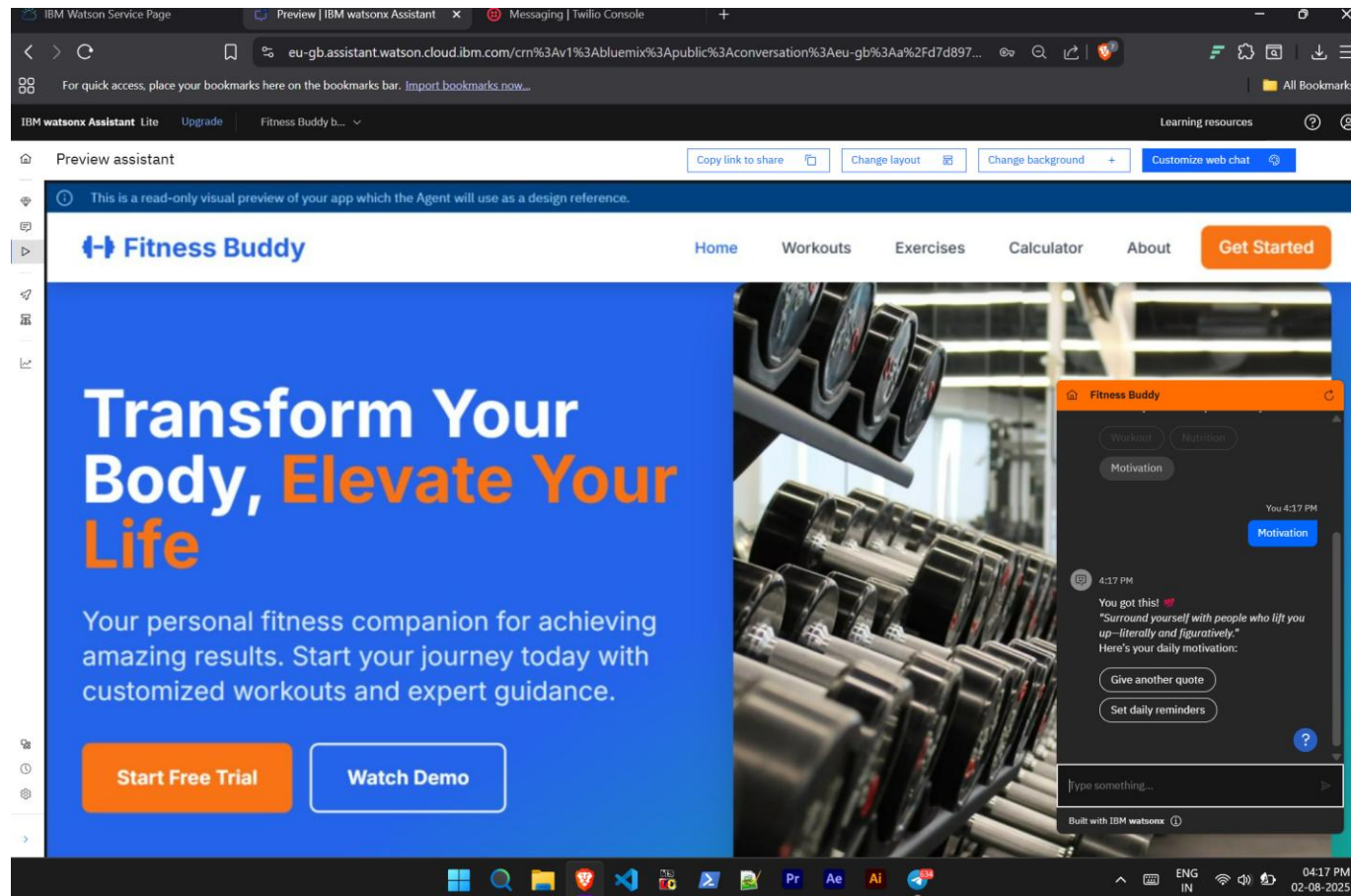
The main content area is divided into three sections:

- Conversation steps:** A list of steps for the "Hi buddy" conversation. Step 1 is "Hi, I'm your Fitness Buddy - ready to help you stay fit, eat smart, and stay motivated! What do you...". Step 2 is "Great! What's your fitness goal?". Step 3 is "### Fitness Buddy: General Fitness (3-5x/week, 30-45 mins) ### 1. Dynamic Warm-Up (5 mins) ...". Step 4 is "### Strength & Mobility Circuit (3 rounds, 30 sec rest between exercises) | Exercise | Duration/Reps...". Step 5 is "Try this 15-minute beginner workout (no equipment): 2 mins Jumping Jacks 3 sets o...".
- Display name:** A section for setting a display name to overwrite the action title. The current display name is "Get help on ACME bill".
- Add example phrases:** A section for adding phrases that a customer might use to start the conversation. The current phrases are "Reminder", "Task", "Hello", "Hi", and "Hi buddy".

On the right side, there is a **Preview** window showing a chat interface. The chat starts with the user saying "Let's talk food" and "What kind of meal help do you need?". The assistant responds with a list of meal suggestions: "Breakfast ideas", "Protein-rich vegetarian meals", "Post-workout meals", and "Full-day meal plan". The user selects "Post-workout meals". The assistant then provides a list of meal suggestions: "Boiled eggs + banana", "Protein smoothie (milk + peanut + oats)", "Paneer bhurji + chapati", and "Idly + sambar (dal + protein)".

RESULT

- Motivation quotes



CONCLUSION

- Fitness Buddy:
- Provides personalized fitness coaching 24/7
- Removes the need for fitness apps or trainers
- Uses IBM Cloud & Watson Assistant only
- Can be extended to new users quickly and easily
- Entirely cloud-native, cost-effective, and scalable

FUTURE SCOPE

- Add advanced personalization using IBM Granity
- Integrate with fitness bands and sensors
- Enable voice-based interaction (Watson Speech APIs)
- Add mental wellness features
- Multilingual support for regional access

REFERENCES

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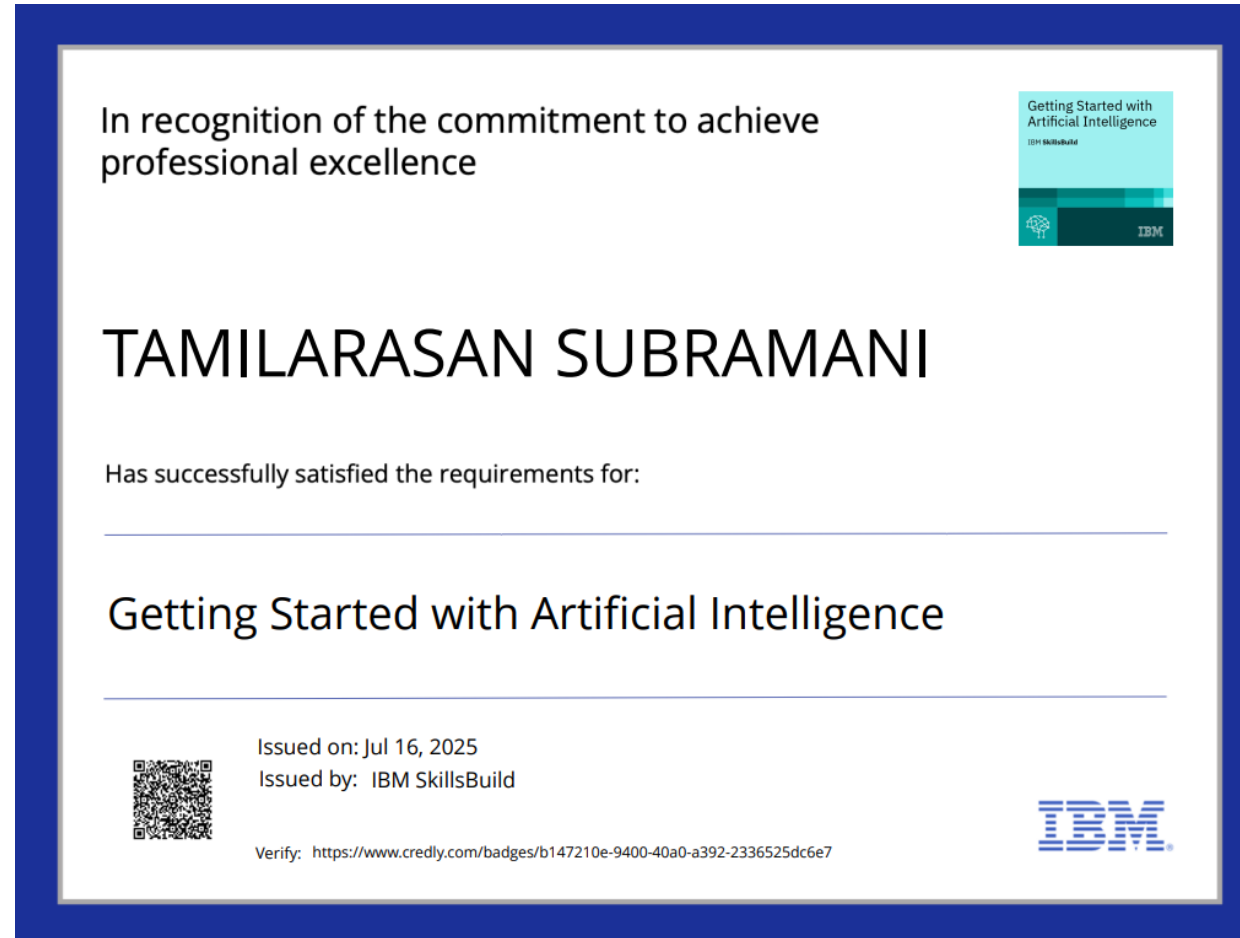
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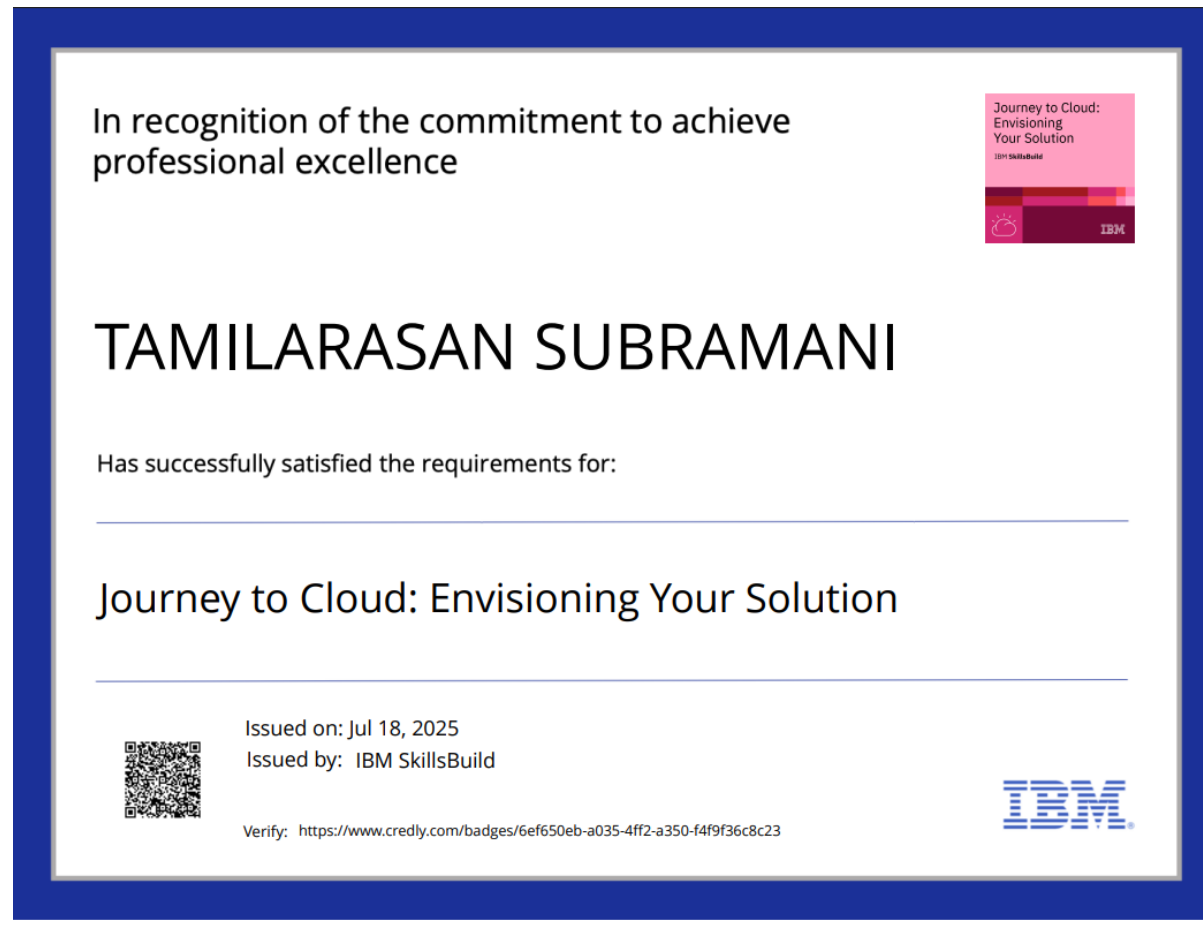
IBM CERTIFICATIONS

- Screenshot/ credly certificate(getting started with AI)



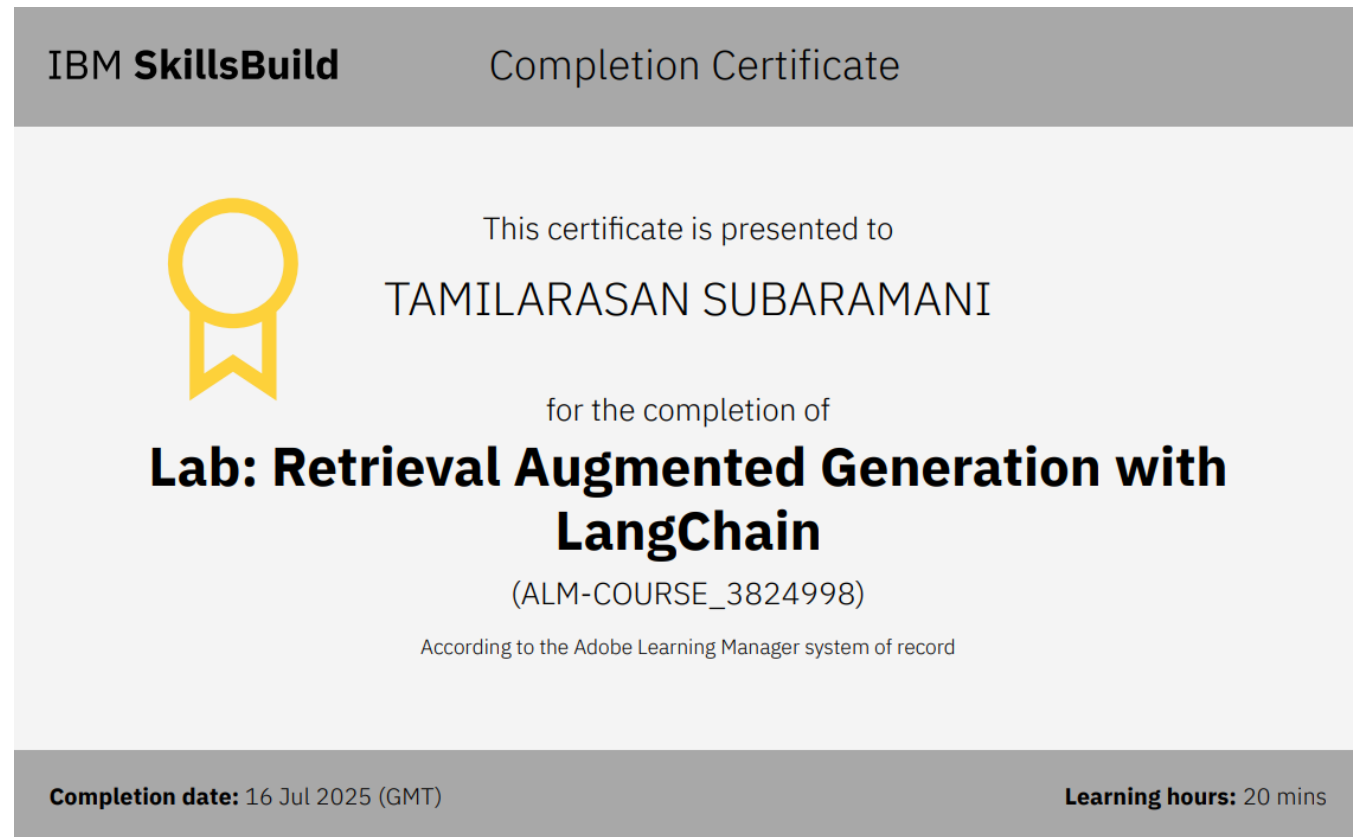
IBM CERTIFICATIONS

- Screenshot/ credly certificate(Journey to Cloud)



IBM CERTIFICATIONS

- Screenshot/ credly certificate(RAG Lab)





THANK YOU