IBM CAPSTONE PROJECT

FITNESS AI AGENT

Presented By:

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OUTLINE

- Problem Statement
- Proposed System/Solution
- System Development Approach
- Algorithm & Deployment
- Result
- Conclusion
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PROBLEM STATEMENT

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.

In today's fast-paced world, maintaining a healthy lifestyle is challenging due to a lack of personalized guidance, motivation, and time. While many fitness apps exist, they often offer generic advice that doesn't adapt to individual goals, habits, or physical conditions. This lack of personalization can lead to poor engagement, inconsistent progress, and even injury.

FITNESS BUDDY aims to solve this problem.

PROPOSED SOLUTION

Data Collection:

Collect user data (age, fitness level, goals, activity logs, etc.) and real-time inputs from wearables.Include contextual data like mood, sleep, location, and weather.

Data Preprocessing :

Clean and standardize data to handle missing values and inconsistencies.Engineer features such as fatigue level,

Machine Learning Algorithm :

Use recommendation models and reinforcement learning to personalize workouts.Apply NLP for natural user interaction . Continuously adapt plans based on user feedback and real-time metrics.

Deployment :

Build a web app with real-time interaction . Integrate with wearables and fitness API.

Evaluation :

Measure success via goal achievement, engagement and health improvement.

Result :

A smart, always-on fitness companion that evolves with the user to boost motivation, consistency, and long-term health.

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:

HARDWARE:

Internet enabled device(Laptop , smartphone)

SOFTWARE:

Modern web browser (Google Chrome, Firefox, etc.)

IBM Cloud account, IBM Watson assistant service enabled

- Library required to build the model:

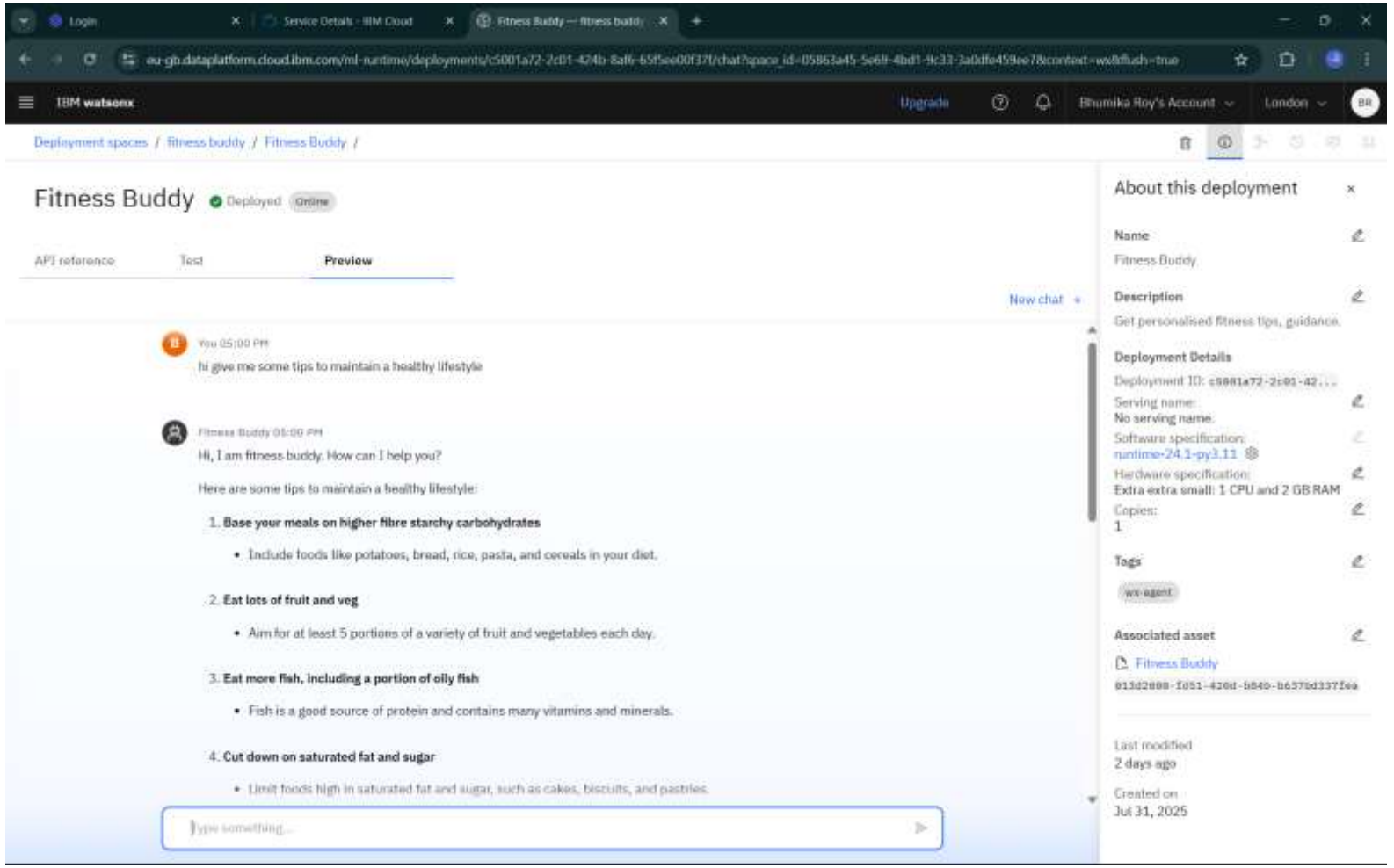
IBM Watson NLP

IBM Cloud

ALGORITHM & DEPLOYMENT

- **Algorithm Selection:**
  - Provide a brief overview of the chosen algorithm (e.g., time-series forecasting model, like ARIMA or LSTM for fitness needs and justify its selection based on the problem statement and data characteristics.
- **Data Input:**
  - Specify the input features used by the algorithm, such as past data of user fitness , health conditions, day of the week, user preference such as allergy foods and any other relevant factors.
- **Training Process:**
  - Explain how the algorithm is trained using historical data. Highlight any specific considerations or techniques employed, such as cross-validation or hyperparameter tuning for personalised output.
- **Prediction Process:**
  - Detail how the trained algorithm makes diet chart based on user preference. Discuss any real-time data inputs considered for future workout schedule.

RESULT



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CONCLUSION

- The Fitness AI Bot (FITNESS BUDDY) shows how technology can make staying healthy a lot easier and more personal. By understanding each user’s goals, habits, and preferences, the bot offers workout and nutrition tips that actually fit their lifestyle. It's like having a smart fitness buddy that learns and grows with you. While the current version already brings value, there's still room to grow like syncing with wearables or adapting better to changes in users' routines. Overall, it's a great step toward making fitness more accessible, engaging, and tailored for everyone.

FUTURE SCOPE

Fitness Buddy can get even smarter and more helpful. By connecting with wearables like smartwatches, it could offer real time, personalized advice based on your activity, heart rate, or sleep. It could also adjust recommendations based on your mood or motivation level giving a boost when you need it most.

In the future, features like voice support, interactive workouts using AR, or even connecting with others for shared goals could turn the bot into a full wellness companion. With more data and smarter algorithms, it'll keep getting better at helping users stay on track and feel their best.

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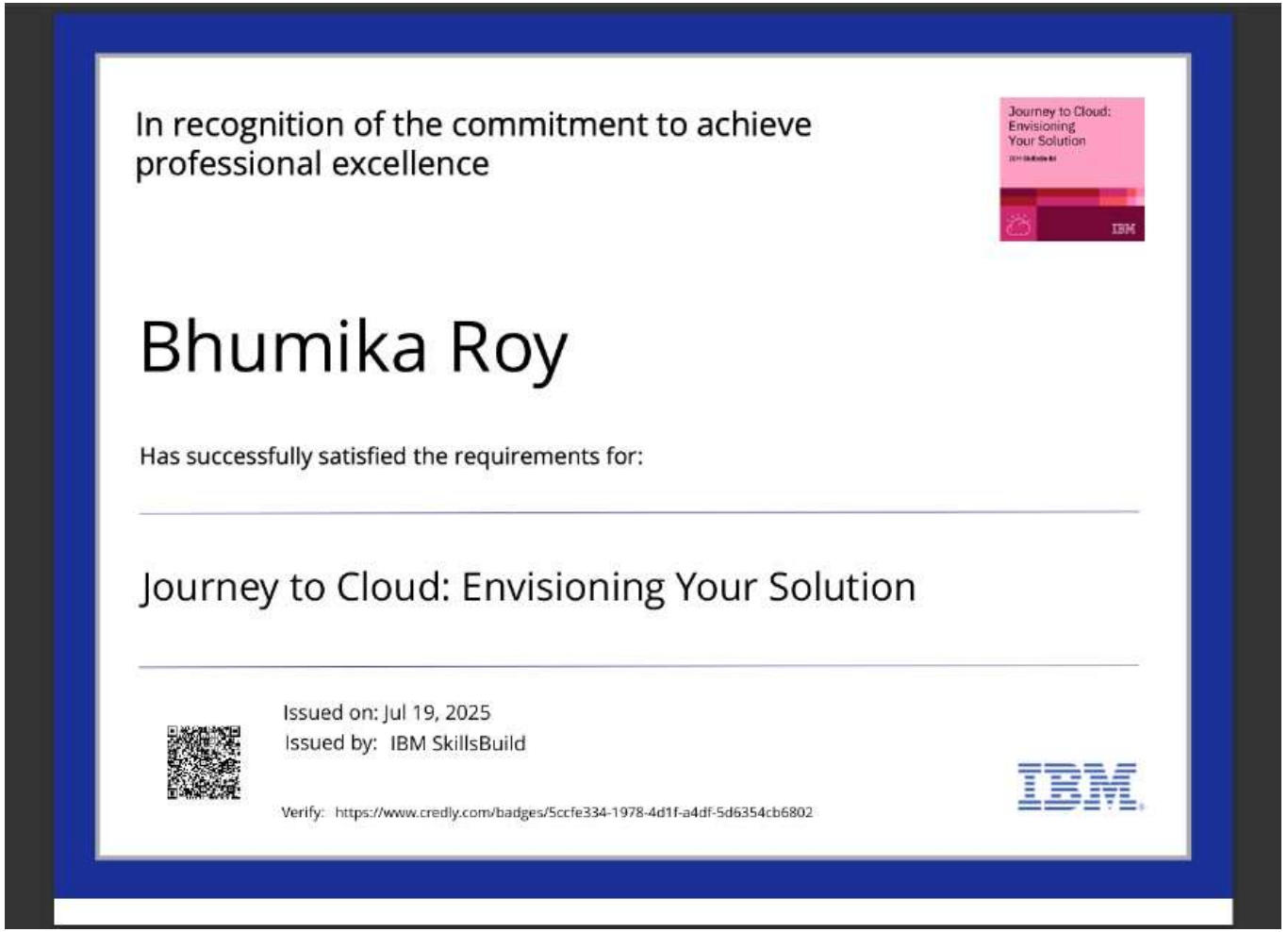

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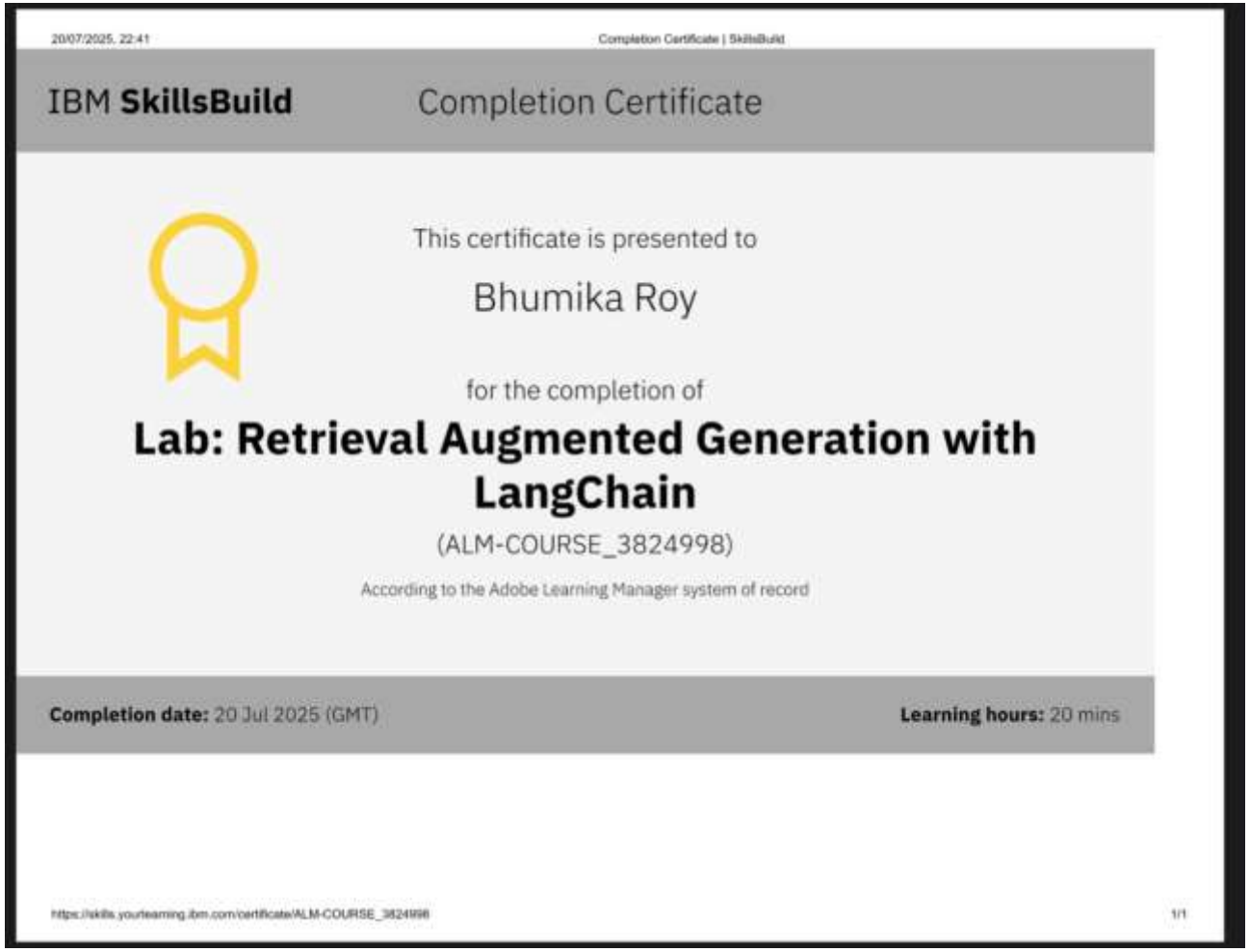

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