# CAPSTONE PROJECT

# DIGITAL FINANCIAL LITERACY AI


**Presented By:**

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# OUTLINE

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

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# PROBLEM STATEMENT

The Challenge – An AI Agent for Digital Financial Literacy, helps users understand and navigate essential financial tools and practices. It retrieves reliable content on using UPI, avoiding online scams, understanding interest rates, budgeting, and personal finance management from government portals, banking websites, and educational platforms. With multilingual support, users from diverse backgrounds can interact in their preferred language and ask questions like “How do I send money via UPI?” or “What is a safe interest rate for a loan?” The agent ensures financial literacy is accessible, personalized, and culturally inclusive. This AI-driven assistant empowers users with knowledge, protects them from fraud, and builds confidence in digital finance.

# PROPOSED SOLUTION

- The proposed system aims to address the challenge of improving digital financial literacy by providing an AI-powered, multilingual, and secure conversational agent accessible to all, including underserved communities. The solution will consist of the following components:
- **Data Collection:**
- Gather curated financial education content from trusted sources such as RBI guidelines, government schemes, and financial literacy portals.
- Utilize real-time updates on financial products, fraud alerts, and regulatory changes.
- **Data Preprocessing:**
- Clean and organize collected data to ensure accuracy, remove outdated content, and standardize formats.
- Perform knowledge structuring to enable the AI agent to answer context-based queries effectively.
- **AI Agent Algorithm:**
- Implement an AI-powered conversational model (IBM watsonx.ai Granite Instruct) to deliver financial education interactively.
- Incorporate personalization based on user profiles, goals, and preferred language.
- **Deployment:**
- Develop a user-friendly interface available on web, mobile, and messaging platforms like WhatsApp/SMS for low-bandwidth areas.
- Deploy the solution on a scalable and secure IBM Cloud infrastructure ensuring data privacy. **Evaluation:**
- Measure user engagement, learning progress, and satisfaction using surveys and analytics.
- Continuously update content and fine-tune the model based on feedback and changing financial regulations.
- **Result:**
  Increased financial awareness, better decision-making, and greater inclusion in the digital economy, especially for rural and low-income populations.

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# SYSTEM APPROACH

- The "System Approach" section outlines the overall strategy and methodology for developing and implementing the AI-powered Digital Financial Literacy Agent. Here's a suggested structure for this section:
- System Requirements
- Hardware
  - Computer or cloud instance with at least 4 GB RAM and dual-core processor.
  - Stable internet connection for accessing IBM watsonx.ai and APIs.
- Software
  - Python 3.11 or later.
  - IBM Cloud account with watsonx.ai access.
  - Web or mobile interface platform for deployment.
- Library Requires to Built The Model
  - langchain_ibm – For Integrating IBM watsonx.ai LLMs
  - Ibm_watsonx_ai – For authentication and API interaction
  - Langgraph – For agent Workflow Management

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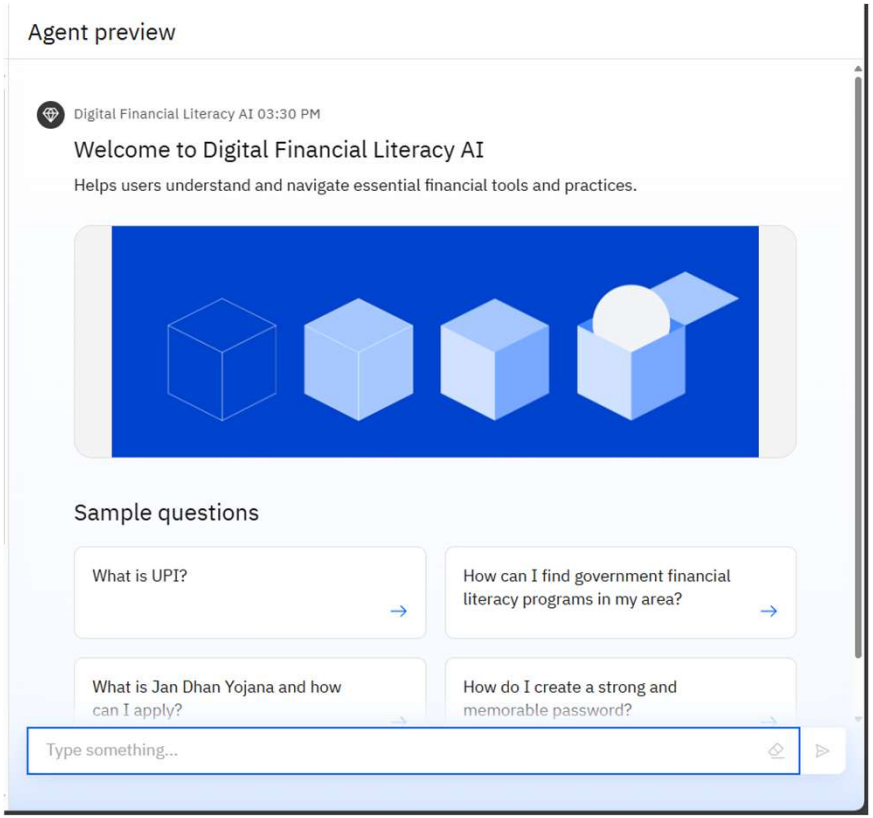
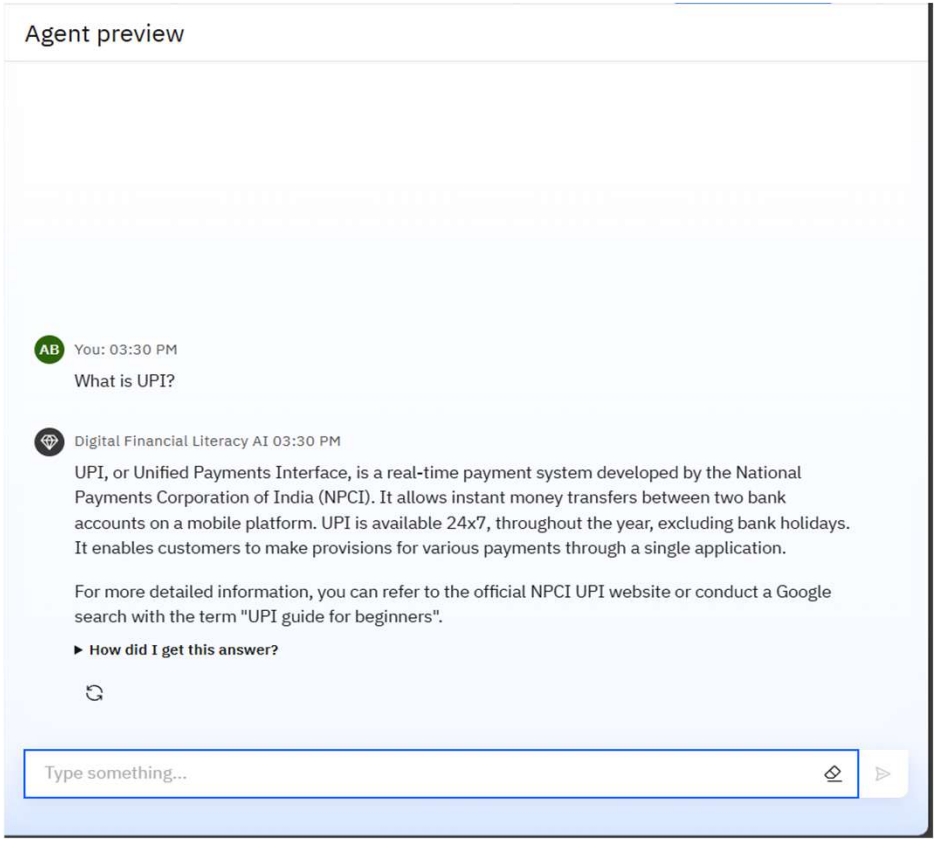
# ALGORITHM & DEPLOYMENT

- In the Algorithm section, describe the AI model and approach chosen for delivering personalized financial literacy guidance. Here's the structure:
- **Algorithm Selection:**
  - Use IBM watsonx.ai Granite Instruct model integrated with langgraph to create an AI powered conversational agent.
  - Selected for its ability to handle multilingual queries, maintain conversation context, and deliver accurate, personalized financial information.
- **Data Input:**
  - Knowledge base includes curated RBI guidelines, government financial schemes, fraud prevention tips, and digital banking tutorials.
  - User profile inputs such as preferred language, financial goals, and literacy level for personalized responses.
- **Training Process:**
  - The AI is fine-tuned using domain-specific financial literacy datasets through tools in IBM cloud.
- **Prediction Process:**
  - The trained agent interprets user queries and retrieves the most relevant, context-aware financial advice.

# RESULT

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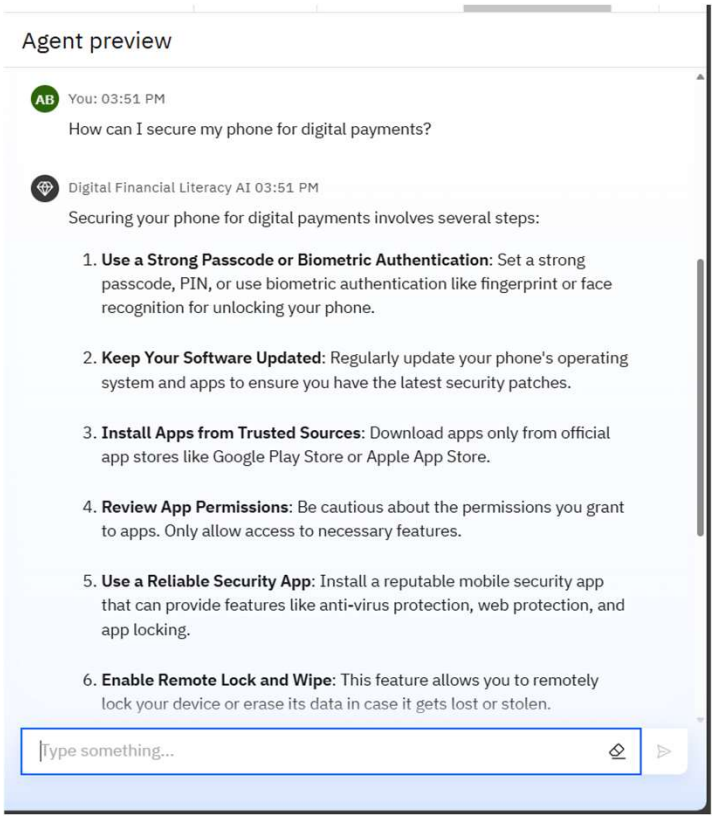
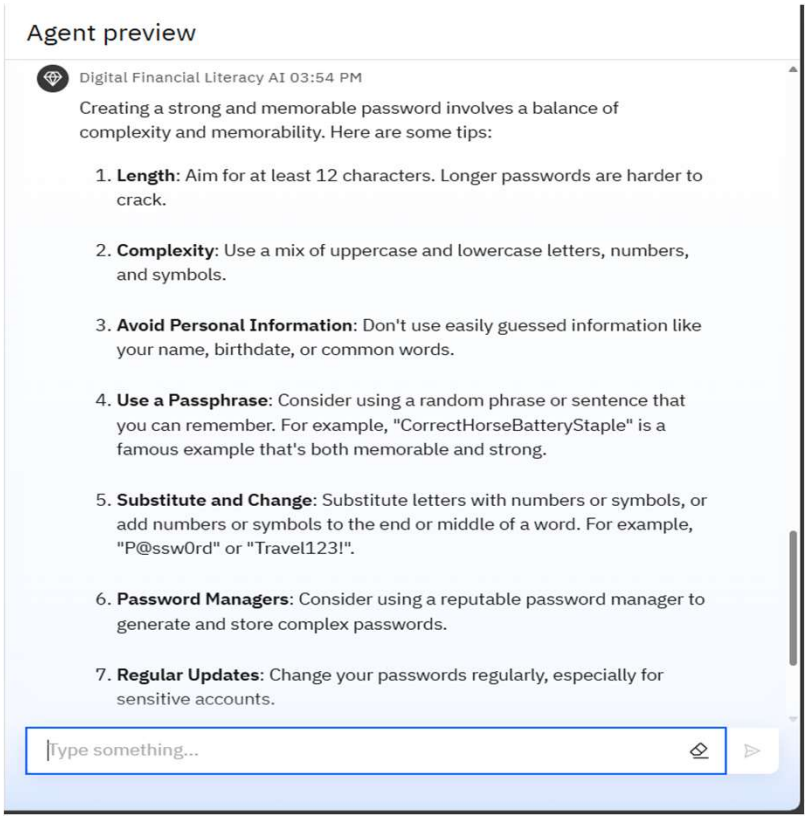
# RESULT

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# CONCLUSION

- The AI-powered Digital Financial Literacy Agent empowers individuals with the knowledge and tools to make informed financial decisions.
- By combining IBM watsonx.ai’s intelligence with inclusive accessibility features, the solution promotes financial independence and security across diverse communities.

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# FUTURE SCOPE

- Voice-based interaction in multiple languages
- Integration with real-time government scheme updates
- AI-powered beginner investment guidance
- Gamified financial learning
- Expansion to international markets

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# REFERENCES


- RBI Financial Literacy Guidelines – https://rbi.org.in
- Government of India Digital Financial Literacy Campaign – https://www.pmjdy.gov.in
- IBM watsonx.ai Documentation – https://www.ibm.com/watsonx


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# IBM CERTIFICATIONS


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# IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence

Journey to Cloud: Envisioning Your Solution

IBM

Ashish Bharti

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution

Issued on: Jul 21, 2025
Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/10956104-01dc-49c7-b7b3-5c062f605370

IBM

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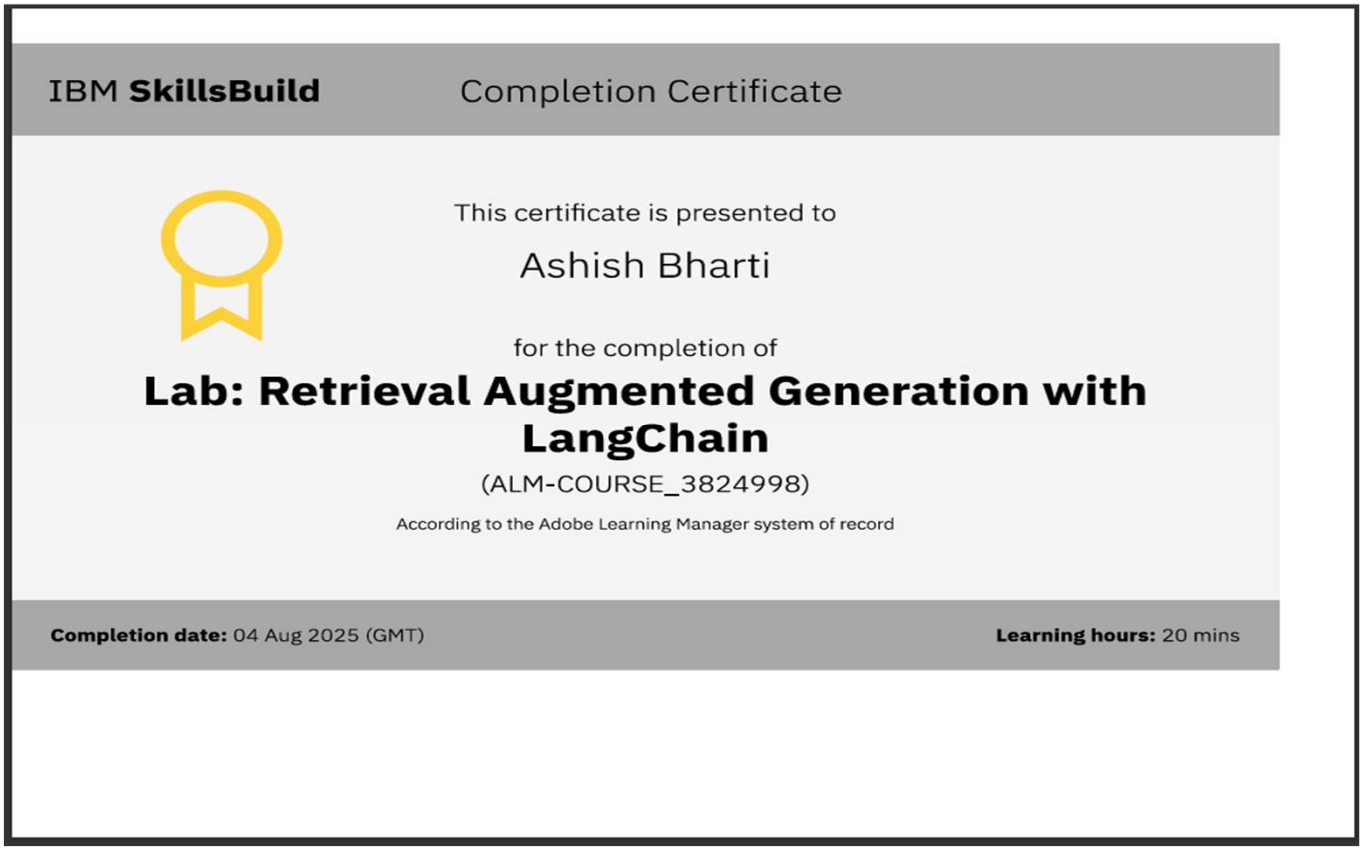
# IBM CERTIFICATIONS



IBM **SkillsBuild** Completion Certificate

This certificate is presented to

Ashish Bharti

for the completion of

**Lab: Retrieval Augmented Generation with LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 04 Aug 2025 (GMT) **Learning hours:** 20 mins

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# THANK YOU

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