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# **IBM Skillbuild Project**

## **AI AGENT FOR DIGITAL FINANCIAL LITERACY**

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# OUTLINE

- **Problem Statement**
- **Proposed System/Solution**
- **System Development Approach**
- **Algorithm & Deployment**
- **Result**
- **Conclusion**
- **Future Scope**
- **References**

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# PROBLEM STATEMENT

Many users in India struggle with understanding digital finance tools like UPI, net banking, online lending, and budgeting. Due to limited awareness, they are prone to online scams, financial fraud, and bad loan decisions. There's a need for a multilingual, intelligent assistant that guides users in a personalized and culturally inclusive way to promote financial literacy and digital safety.

## **Problem Statement No.7 – AI Agent for Digital Financial Literacy**

**The Challenge** – An AI Agent for Digital Financial Literacy, powered by RAG (Retrieval-Augmented Generation), 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.

**Technology** – Use of IBM Cloud Lite services / IBM Granite is mandatory.

# PROPOSED SOLUTION

We propose an AI-driven chatbot using IBM Watsonx.ai (Granite/Mistral models) that:

- Answers user queries about UPI, EMI, budgeting, loans, scams.
- Works in English, Hindi, and other regional languages.
- Uses Retrieval-Augmented Generation (RAG) to pull from reliable documents (NPCI, RBI, etc.)
- Offers simple, step-by-step financial guidance.
- Can be accessed via Watsonx AI Agent interface on IBM Cloud Lite.

# SYSTEM APPROACH

- Platform: IBM Cloud Lite (Watsonx.ai Agentic Lab)
- Tools Enabled:
  - Search Tool
  - Code Interpreter (EMI calculations)
  - File Tool (RAG documents)
  - Translation Tool (multilingual)
  - Memory Tool (context awareness)
- Data Sources:
  - NPCI (UPI info), RBI (Fraud prevention)
  - Simulated PDFs/JSONs from reliable financial websites
- Languages Supported: English, Hindi

# ALGORITHM & DEPLOYMENT

- Algorithm Strategy:

1. RAG Architecture:

- Searches uploaded docs (PDF/JSON) based on user query
- Retrieves top documents and uses model to generate answer

2. Model:

- IBM Granite / Mistral-large for language generation

3. Tools:

- Code Tool for interest, EMI, savings calculations
- Translator for Hindi queries
- Memory to maintain conversation flow

- Deployment Path:

Watsonx.ai Sandbox → Associate Runtime → Create Agent → Deploy in IBM Cloud

# RESULT

The agent responds accurately to user queries in both English and Hindi, offering step-by-step advice using reliable financial knowledge.

The screenshot shows the IBM Watsonx deployment page for the 'AI Agent for Digital Financial Literacy'. The browser address bar shows the URL: `dataplatfom.cloud.ibm.com/ml-runtime/deployments/d67d331a-7ade-43bd-86e9-b...`. The page header includes the IBM Watsonx logo, an 'Upgrade' button, and user information for 'Archita Sinha's Account' in 'Dallas'. The deployment status is 'Deployed' and 'Online'. The 'Preview' tab is selected, showing a chat history. The user's query is 'How can I protect myself from online banking fraud?'. The AI agent's response provides a list of 8 steps to protect oneself from online banking fraud.

Deployment spaces / AI Agent for Digital Financial Literacy / AI Agent for Digital Financial Literacy /

AI Agent for Digital Financial Literacy ✓ Deployed Online

API reference Test Evaluations **Preview**

New chat +

**A** You 08:50 PM  
How can I protect myself from online banking fraud?

**AI Agent for Digital Financial Literacy** 08:50 PM  
To protect yourself from online banking fraud, you can take several steps:

1. Keep your devices secure by installing anti-virus software and keeping your operating system and browser up to date.
2. Verify the authenticity of websites by checking for "https" in the URL and looking for a lock icon in the address bar.
3. Monitor your accounts regularly to detect any suspicious activity.
4. Be cautious with links and attachments in emails and text messages, as they may be phishing scams.
5. Invest in additional safety measures such as two-factor authentication and password managers.
6. Vary your passwords and avoid using the same password for multiple accounts.
7. Charge your credit card instead of your debit card for online transactions.
8. Report any suspicious activity to your bank and the Federal Trade Commission (FTC).

Type something...





# CONCLUSION

- The AI Agent successfully answers questions about digital finance.
- Provides multilingual support and practical guidance on scams, loans, and UPI usage.
- Promotes digital financial literacy for diverse users.
- Challenges:
  - Training the model for regional context
  - Simulating trusted knowledge sources for RAG
- Resolved via Watsonx tools and well-designed prompt + document set.

# FUTURE SCOPE

- Integrate voice-based interaction for accessibility
- Expand language support (e.g., Tamil, Bengali)
- Connect with APIs for real-time interest rates or financial offers
- Deploy to mobile app / WhatsApp bot
- Add visuals, charts, or EMI calculators via embedded components

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# REFERENCES

1. <https://www.npci.org.in/>
2. <https://www.rbi.org.in/>
3. <https://www.digitalindia.gov.in/>
4. <https://www.ibm.com/cloud/watsonx>
5. SEBI Investor Awareness Portal
6. Groww and Finshots (for simulated examples)

# IBM CERTIFICATIONS

Certificate( getting started with AI)

In recognition of the commitment to achieve  
professional excellence



## Archita Sinha

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



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# IBM CERTIFICATIONS

Certificate( Journey to Cloud)



# IBM CERTIFICATIONS

Certificate( RAG Lab)

7/20/25, 1:57 PM

Completion Certificate | SkillsBuild

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Archita Sinha

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 18 Jul 2025 (GMT)

**Learning hours:** 20 mins



**THANK YOU**