

# IBM AICTE PROJECT

## AI AGENT FOR DIGITAL FINANCIAL LITERACY

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# OUTLINE

- **Problem Statement**
- **Technology used**
- **Wow factor**
- **End users**
- **Result**
- **Conclusion**
- **Git-hub Link**
- **Future scope**
- **IBM Certifications**

# PROBLEM STATEMENT

- Many individuals, especially from rural or less digitally aware communities, face challenges in understanding digital financial tools such as UPI, online banking, loan procedures, or scam prevention. Lack of awareness leads to financial mismanagement, fraud risks, and exclusion from government schemes.

## **Proposed Solution:**

- An **AI-powered Financial Literacy Agent** using **Natural Language Processing (NLP)** and **Retrieval-Augmented Generation (RAG)** to educate users on essential financial topics. The assistant provides clear guidance on digital transactions, budgeting, loans, and scam prevention — all with multilingual support and reliable responses sourced from government portals and financial institutions.

# TECHNOLOGY USED

- IBM cloud lite services
- IBM Watsonx.ai Studio
- IBM Granite Foundation Model (LLM)
- Natural Language Processing (NLP)
- Vector Index (Watsonx.ai)
- Retrieval Augmented Generation (RAG)

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# IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model
- IBM Cloud Object Storage
- IBM Cloud IAM (Identity and Access Management)

# WOW FACTORS

- This AI agent aims to empower users with accurate, accessible, and personalized financial knowledge.
  - It will reduce misinformation, help users make better money decisions, and increase trust in digital financial systems.
  - The solution is especially impactful for underserved communities and first-time digital users.
- **Unique features:**
  - Retrieval-based answers from trusted sources like RBI and NPCI
  - Natural Language Processing (NLP) for understanding diverse user queries
  - Document-based responses using a Vector Index (RAG implementation)
  - Safe handling of off-topic or unrelated questions
  - Designed for multilingual interaction to reach regional users
  - Covers essential topics like UPI, online scams, loans, budgeting, and savings

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# END USERS

- General Public
- First-time Digital Users
- Elderly Citizens
- Students and Young Adults
- NGOs and Government Outreach Programs
- Self-Help Groups / Women's Collectives
- Educators / Institutions
- Microfinance Beneficiaries

# RESULT - Preview of the Agent

The screenshot displays the IBM Watsonx Agent Lab interface in a web browser. The browser's address bar shows the URL: `dataplatfom.cloud.ibm.com/wx/agents/79ebc6cf-b3d7-466a-999e-163f696774e3?project_id=204f5994-aedd-492a-8651-87dbe208dd98&context=wx`. The page header includes the IBM Watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user information for 'Subharup Nandi's Account' in 'Dallas'. A 'Share feedback' button with a beta badge is also present. The main navigation bar shows 'Projects / FINADVISOR / FinAdvisor' and a 'New agent +' button. The interface is divided into a left sidebar with 'Build' and 'Agent preview' tabs, and a main chat area. The chat area shows a conversation where the user asked 'How do I budget my monthly expenses?' and the FinAdvisor agent responded with budgeting tips and a list of recommended categories. At the bottom, there is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx

Upgrade ⓘ 🔔 Subharup Nandi's Account ▾ Dallas ▾ SN ⋮

Projects / FINADVISOR / FinAdvisor Share feedback β 📁 ▾ New agent + Deploy 🔗 📝 ⓘ

Build > Agent preview

SN You: 04:06 PM

How do I budget my monthly expenses?

FinAdvisor 04:06 PM

Here are some tips for budgeting your monthly expenses:

1. Estimate your monthly income and identify your monthly expenses.
2. Compare your income and expenses to see where you can make adjustments.
3. Create a budget plan that allocates 50% of your income towards needs, 30% towards wants, and 20% towards savings and debt paydown.
4. Be explicit about your goals and include them as line items in your budget.
5. Use a budgeting tool or spreadsheet to track your expenses and stay on top of your finances.

Some recommended budgeting categories include:

- Housing
- Transportation
- Food
- Insurance
- Debt repayment
- Entertainment
- Savings

Remember to review and adjust your budget regularly to ensure you're on track with your financial goals.

► How did I get this answer?

🔄

Type something... 📎 ↵



# CONCLUSION

- The Digital Financial Literacy AI Agent leverages the power of IBM Watsonx.ai and Retrieval-Augmented Generation (RAG) to deliver accessible, accurate, and context-aware financial guidance.
- By addressing real-world concerns like UPI safety, loan awareness, and scam prevention, the assistant empowers users to make informed financial decisions.
- With multilingual support and document-backed answers, it ensures inclusivity, trust, and reliability.
- This solution has the potential to bridge the digital divide and promote financial well-being across diverse communities.

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## FUTURE SCOPE

- Multilingual Research Support
- Voice-Activated Research Assistant
- Real-Time Collaboration Features
- Research Gap and Novel Topic Identification
- Integration with Publishing Platforms
- AI-Assisted Paper Drafting

## GITHUB LINK -

<https://github.com/Subharup-31/FinAdvisor-AI>

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



Subharup Nandi

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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Getting Started with Artificial Intelligence

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### Journey to Cloud: Envisioning Your Solution

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Journey to Cloud

# IBM CERTIFICATIONS

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Subharup Nandi

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

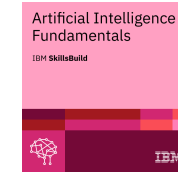
**Completion date:** 24 Jul 2025 (GMT)

**Learning hours:** 20 mins

RAG Lab

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### Artificial Intelligence Fundamentals

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Artificial Intelligence Fundamentals



**THANK YOU**