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# **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.

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# 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)

# 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

# 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

# RESULTS : SETTING UP

The screenshot displays the IBM watsonx Agent Lab interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, the user name 'Srinivas Sannavenkatappa', the location 'London', and a profile icon. Below the navigation bar, the 'Navigation Menu' is visible, with 'Agent Lab' selected. The main interface is divided into two panels: 'Build' and 'Agent preview'.

**Build Panel:**

- Setup:**
  - Name:** FinAdvisor
  - Description:** AI agent giving personalized budgeting, investment, and financial planning advice in real time. (97/100 characters)
  - Icon:** A placeholder image showing a flowchart with a magnifying glass over a green circle.
  - Quick start questions:** A section for defining initial queries for the agent.

**Agent preview Panel:**

- Sample questions:**
  - Can you help me track my income and expenses?
  - How should I plan for my financial goals?
  - Where should I invest based on my risk level?
- Input field:** A text box with the placeholder 'Type something...' and a send button.

The bottom of the screen shows a Windows taskbar with various application icons and a system tray with the date '09-08-2025' and time '08:09'.



# RESULTS : AGENT PREVIEW

IBM watsonx

Upgrade ?

Srinivas Sannavenkatappa'...

London

SS

Projects / FinAdvisor / Agent Lab

Share feedback

Unsaved

New agent +

Deploy

Build

AI Model: llama-3-3-70b-instruct

Setup

Name

FinAdvisor

Description 97/100

AI agent giving personalized budgeting, investment, and financial planning advice in real time.

Icon

Placeholder image

Quick start questions

What's the best way to manage my debts?

Agent preview

You: 08:11 AM

Where should I invest based on my risk level?

FinAdvisor 08:11 AM

Based on the search results, it seems that there are various investment options available that cater to different risk levels. Some options include:

1. Risk-Based Investment Options: These options allow investors to align their investment objectives with their risk tolerance level, giving them more control over how they want to achieve their goals.
2. Asset Classes by Risk: This guide provides an overview of different asset classes, such as fixed income investments, and their corresponding risk levels.
3. Customized Age-Based Investment Options: These options allow investors to determine and adjust their investment strategy based on their age and risk tolerance.
4. Single Fund Investment Options: These options allow investors to choose a single underlying fund based on their investment strategy and risk level.

It's important to note that the best investment option for you will depend on your individual financial goals, risk tolerance, and circumstances. It's recommended that you consult with a financial advisor or conduct your own research before making any investment decisions.

Type something...

# RESULTS : TOOLS USED (ALSO USED VECTOR DATABASE INDEX)

The screenshot displays the IBM watsonx AI Agent Lab interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a user profile 'Srinivas Sannavenkatappa'..., a location dropdown 'London', and a session status 'SS'. Below this, the breadcrumb 'Projects / FinAdvisor / Agent Lab' is visible, along with buttons for 'Share feedback', 'Unsaved', 'New agent +', and 'Deploy'.

The main interface is divided into two panels. The left panel, titled 'Build', shows a list of 'Added tools (5)':

- Google search**: Retrieve information from the Internet with the Google search engine.
- DuckDuckGo search**: Retrieve information from the Internet with the DuckDuckGo search engine.
- Wikipedia search**: Retrieve information from Wikipedia articles.
- Webcrawler**: Retrieve information from a website.
- Weather**: Retrieve the weather of a city.

The right panel, titled 'Agent preview', displays the agent's output for a query. It includes a numbered list item '4. Single Fund Investment Options: These options allow investors to choose a single underlying fund based on their investment strategy and risk level.' followed by a paragraph: 'It's important to note that the best investment option for you will depend on your individual financial goals, risk tolerance, and circumstances. It's recommended that you consult with a financial advisor or conduct your own research before making any investment decisions.' Below this, it lists 'Some popular investment options that cater to different risk levels include:' followed by a bulleted list:

- **Conservative**: Fixed income investments, such as treasury securities, treasury inflation-protected securities (TIPS), municipal bonds, and high-quality corporate bonds.
- **Moderate**: A mix of fixed income and equity investments, such as dividend-paying stocks, real estate investment trusts (REITs), and index funds.
- **Aggressive**: Equity investments, such as stocks, mutual funds, and exchange-traded funds (ETFs).

The preview concludes with a summary: 'Ultimately, the key to successful investing is to find an investment strategy that aligns with your risk tolerance and financial goals, and to regularly review and adjust your portfolio as needed.' and a section 'How did I get this answer?' with a refresh icon. At the bottom of the preview is a text input field with the placeholder 'Type something...'. The Windows taskbar at the very bottom shows various application icons and the system clock indicating '08:12 09-08-2025'.

# RESULTS

## Deployed AI Agent

IBM watsonx Upgrade ? Srinivas Sannavenkatappa'... London SS

Deployment spaces / deployment1 / FinAdvisor

FinAdvisor Deployed Online

API reference Test **Preview**

New chat +

You 08:32 AM  
What's the best way to manage my debts?

FinAdvisor 08:32 AM  
The best way to manage debt is to first assess your debt load, create a budget, and prioritize your debts. You can try to settle your debt yourself or seek the help of a debt adviser. It's also important to understand the difference between good debt and bad debt, be smart about credit cards, and use tried-and-true strategies to pay off your debt. Additionally, you can consider debt consolidation, look into DIY debt payoff methods, and find ways to lower your expenses. It's also important to know how much debt you can afford and to always try to pay more than what's due to pay down debt faster and save on interest expense.

► How did I get this answer?

Type something...

08:32 09-08-2025

## 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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## GITHUB LINK

<https://github.com/srinivass07/Edunet-IBM-Skill-build-Internship>

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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

# course certificate 1

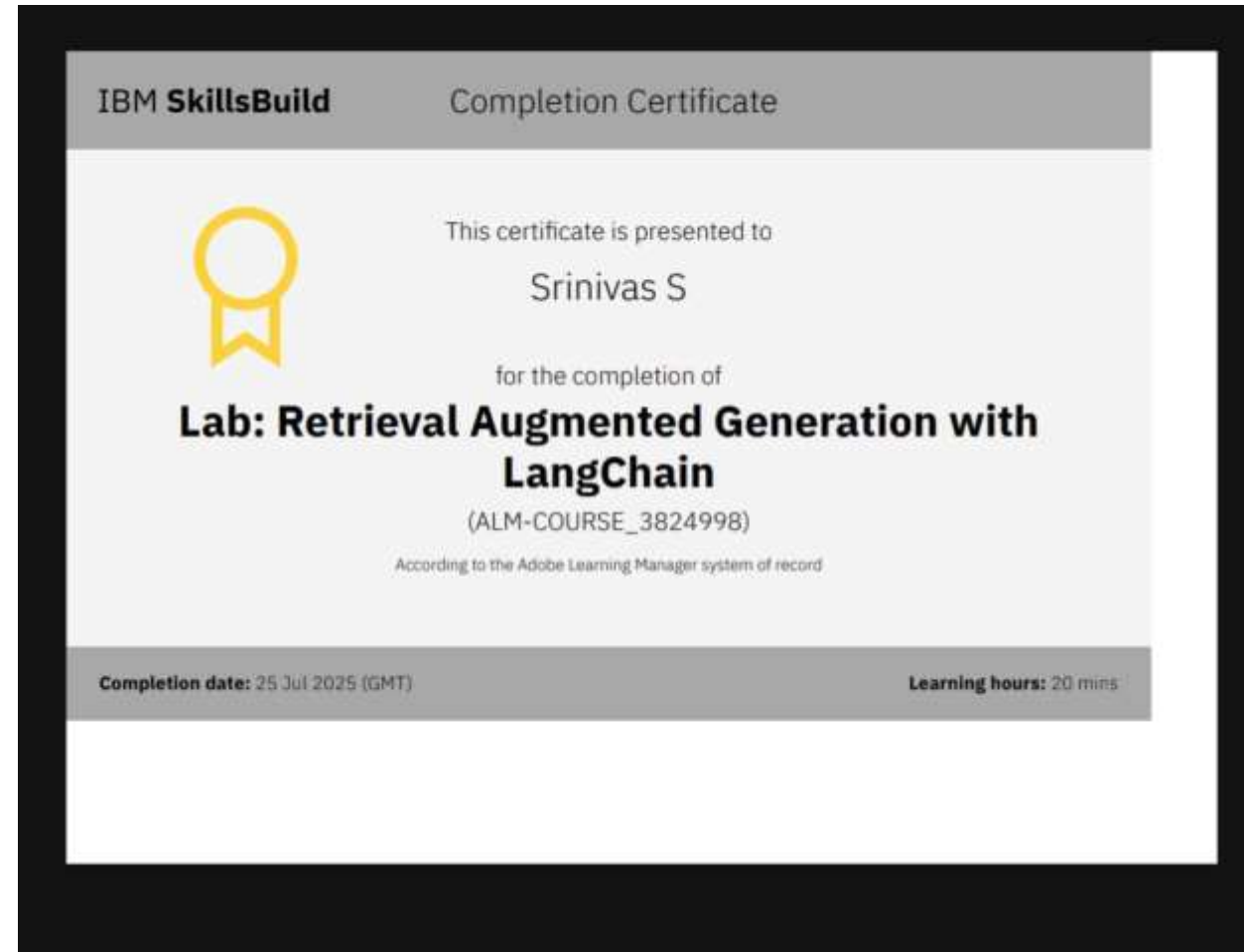


# course certificate 2





# Lab course certificate 3





**THANK YOU**