
CAPSTONE PROJECT

FINVISOR: AI AGENT ON DIGITAL FINANCIAL LITERACY

Presented By:

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OUTLINE

- Problem Statement
- Proposed Solution
- System Development Approach (Technology Used)
- Deployment
- Result (Output Image)
- Conclusion
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PROBLEM STATEMENT

- Despite the rapid adoption of digital payment platforms like UPI and online banking, a large segment of the population—especially individuals in rural areas, senior citizens, and first-time users struggle with understanding financial tools, recognizing scams, and managing their money online. This lack of digital financial literacy increases their vulnerability to fraud and limits their ability to fully participate in a digital economy. Moreover, language barriers and a lack of personalized guidance further widen the gap in financial inclusion.

PROPOSED SOLUTION

- The proposed solution aims to build a user-friendly AI agent named FINVISOR, which assists users—especially beginners, rural citizens, and the elderly—in navigating digital financial systems. It uses Retrieval-Augmented Generation (RAG) and hosted on IBM Cloud Lite with IBM Granite Model to provide safe, multilingual, and verified financial guidance. **The solution will consist of the following components:**
- **Knowledge Collection :**
 - It collects financial data from authentic government and financial institution sources such as RBI, NPCI, SEBI, Jan Dhan, and PM schemes. The documents are processed and stored in a vector database, enabling efficient search during user interaction.
- **Query Understanding:**
 - User queries are processed using Natural Language Understanding (NLU) models. The agent identifies key intent and entities (like “UPI,” “interest rate,” or “scam”) and supports both English and regional languages (e.g., Hindi, Telugu), ensuring wide accessibility.
- **Response Generation using RAG:**
 - The RAG pipeline retrieves the most relevant content using semantic search and feeds it to IBM Granite Model. The model then generates accurate, natural-sounding answers tailored to the user's query, context, and language.
 - To suit diverse users, the agent explains complex financial terms in simple language, offers step-by-step guides (e.g., how to use UPI or report a scam), and provides culturally sensitive support. It avoids technical jargon unless necessary, and always explains it clearly.
- **Deployment:**
 - It is deployed on **IBM Cloud Lite**, with a lightweight web interface for users. It supports text input/output. Security and speed is prioritized to make it accessible for everyone.
- **Outcome:**
 - The AI agent empowers users to safely use digital financial services, avoid fraud, and understand financial tools and government schemes. It builds confidence and promotes inclusion in the digital economy.

SYSTEM APPROACH

- **System requirements :-**

- ✓ Intel i5/i7 Processor, Minimum 8 GB RAM.
- ✓ Windows 10/11 Operating System.
- ✓ IBM Cloud Platform and IBM Granite Model.

- **Functionalities required to build the Agent :-**

- RBI, NPCI, SEBI, PMJDY, NSAP, etc. websites as data sources.
- Watsonx.ai and its different associate services (like [watsonx.governance](#), [watsonx.ai Runtime](#), [watsonx.ai Studio](#) and [CloudObjectStorage](#)).
- **Tools** :- Webcrawler , Google search , DuckDuckGo search and Wikipedia Search.

DEPLOYMENT

SUCCESSFULLY DEPLOYED MODEL ON IBM CLOUD USING IBM GRANITE MODEL- RUNNING INFERENCE VIA WATSONX.AI STUDIO

IBM watsonx

Upgrade

Vaini Porwal's Account

Dallas

VP

Deployment spaces /

FINVISOR

OverviewAssetsDeploymentsJobsManage

FINVISOR

Online

✔ Deployed

FINVISOR

Ai service

wx-agent

2 hours ago

Vaini Porwal (You)



Service instances

To upgrade a service plan, first [upgrade](#) your IBM Cloud account. Then choose **Upgrade service** or **Manage in IBM Cloud** from the menu in the service's row.

Resource Groups ▾





Locations ▾ ⓘ

Filter by:

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Name	Group	Location	Product	Plan	Status	
 CloudObjectStorage	Default	Global	Cloud Object Storage	Lite(deprecated)	Active	⋮
 watsonx.ai Runtime-sd	Default	Dallas	watsonx.ai Runtime	Lite	Active	⋮
 watsonx.ai Studio-pg	Default	Dallas	watsonx.ai Studio	Lite	Active	⋮
 watsonx.governance	Default	Dallas	watsonx.governance	Lite	Active	⋮

RESULT

IBM watsonx

Upgrade

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Projects / FINVISOR / FINVISOR

Share feedback β

📁

▼

New agent +

Deploy

🔗

✍️

ℹ️

Build

AI

Model: granite-3-3-8b-instruct

⚙️

<

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.

🗑️

Agent preview



Sample questions

How do I budget my monthly expenses? →

What is the 50-30-20 budgeting rule? →

What are common online banking scams? →

Is taking a gold loan safe? →

Type something... 🗑️ ▶️

FINVISOR

✔️ Deployed

Online

API reference

Test

Evaluations

Preview

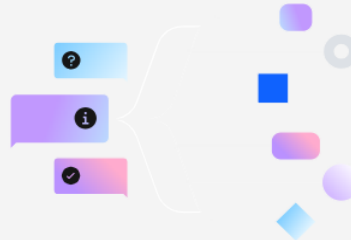
New chat +



FINVISOR 02:35 AM

Welcome to FINVISOR

Aims to develop intelligent virtual assistant that enhances financial awareness and digital safety.



Type something...



FINVISOR



Deployed

Online

API reference

Test

Evaluations

Preview

[New chat](#) +

FINVISOR 02:35 AM

Hi, I am FINVISOR. How can I help you?



You 02:35 AM

What is personal financing?



FINVISOR 02:35 AM

Personal financing refers to the management of an individual's or a family's finances. It involves budgeting, saving, investing, and planning for future financial needs. Here are some key aspects:

- **Budgeting:** This is the process of creating a plan to spend your money. It helps you determine in advance whether you will have enough money to do the things you need and want.



CONCLUSION

- FINVISOR demonstrates the potential of AI-powered agents in simplifying financial decision-making. By integrating real-time data and IBM Watsonx.ai services, it offers users intelligent, personalized financial assistance. This project highlights the future of digital financial advisory systems.

The screenshot displays the IBM Watsonx interface for the FINVISOR deployment. At the top, the navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Vaini Porwal's Account' in the 'Dallas' region. Below the navigation bar, the breadcrumb trail shows 'Deployment spaces / FINVISOR / FINVISOR /'. The main content area features a 'Deployment spaces' tab with the 'FINVISOR' deployment status shown as 'Deployed' with a green checkmark and 'Online' in a grey pill. Below this, there are four tabs: 'API reference', 'Test', 'Evaluations', and 'Preview', with 'Preview' being the active tab. The 'Preview' tab shows a chat interface with a light blue background. The chat history includes a system message defining personal finance and a list of key aspects: Budgeting, Saving, Investing, and Planning. A follow-up message asks if the user wants to know more about a specific aspect. At the bottom, there is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx Upgrade ? 🔔 Vaini Porwal's Account ▾ Dallas ▾ VP

Deployment spaces / FINVISOR / FINVISOR /

Deployment spaces

FINVISOR ✓ Deployed Online

API reference Test Evaluations **Preview**

New chat +

Personal finance refers to the management of an individual's or a family's finances. It involves budgeting, saving, investing, and planning for future financial needs. Here are some key aspects:

- **Budgeting:** This is the process of creating a plan to spend your money. It helps you determine in advance whether you will have enough money to do the things you need and want.
- **Saving:** Setting aside money for future use. It's crucial for emergencies, large purchases, or retirement.
- **Investing:** Using money strategically to generate more income, like putting it in stocks, bonds, or mutual funds.
- **Planning:** This includes planning for short-term needs (like a vacation) and long-term goals (like retirement).

Personal finance management is essential for maintaining financial stability and achieving life goals. It's a skill that can be learned and improved over time. Would you like to know more about any specific aspect of personal finance?

Type something...

FUTURE SCOPE

- **VOICE-ENABLED MULTILINGUAL SUPPORT:**
INTEGRATE VOICE ASSISTANTS TO ALLOW USERS TO INTERACT IN REGIONAL LANGUAGES FOR ACCESSIBILITY.
- **REAL-TIME FRAUD DETECTION:**
USE AI MODELS TO IDENTIFY AND WARN USERS ABOUT SUSPICIOUS FINANCIAL ACTIVITIES IN REAL TIME.
- **PERSONALIZED FINANCIAL PLANNING:**
OFFER TAILORED SAVINGS, INVESTMENT, AND LOAN ADVICE BASED ON USER GOALS AND SPENDING PATTERNS.
- **INTEGRATION WITH DIGITAL WALLETS AND BANKS:**
DIRECTLY LINK WITH UPI APPS, BANK APIS, OR BUDGETING TOOLS FOR SEAMLESS FINANCIAL TRACKING.
- **GAMIFIED FINANCIAL LEARNING:**
USE INTERACTIVE QUIZZES OR CHALLENGES TO IMPROVE DIGITAL FINANCIAL LITERACY IN AN ENGAGING WAY.

REFERENCES

- **NCFM (NSE's Certification in Financial Markets)** module content from the official NSE India website: <https://ncfm.nseindia.com>
- Trusted sources such as the RBI official website, NPCI (<https://www.npci.org.in>), and verified government financial portals like Jan Dhan, NSAP, MyGov, etc.
- A Review of AI-based Financial Assistants and Chatbots.
Journal of Intelligent Information Systems. <https://doi.org/10.1007/s10844-021-00654-y>

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Completion Certificate



This certificate is presented to
Vaini Porwal

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



THANK YOU