
CAPSTONE PROJECT

PROJECT TITLE

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OUTLINE

- Problem Statement
- Technology used
- Wow Factor
- End users
- Result
- Conclusion
- Future Scope
- IBM Certifications

PROBLEM STATEMENT

- **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 USED

IBM cloud lite services

Natural Language Processing(NLP)

Retrieval Augmented Generation (RAG)

IBM Granite Model

IBM CLOUD SERVICES USED

IBM Cloud Watsonx.ai Studio

IBM Cloud Watsonx.ai Runtime

IBM Cloud Agent Lab

IBM Granite Foundation Model

WOW FACTORS

- AI-based financial guidance in simple terms
- Built on secure, scalable IBM Cloud
- No personal data collected – user-safe design
- Supports multiple languages and local context
- Step-by-step help with real-life examples
- Smart retry logic for better accuracy
- Beginner-friendly and jargon-free
- Educates users on budgeting, saving, loans
- Easy to customize with modular instructions
- High impact for digital financial literacy

END USERS

Financial Beginners

People who are new to budgeting, saving, or investing and need basic guidance.

General Public

Anyone looking for simple, safe financial advice in everyday language.

Students & Young Professionals

Early earners trying to manage expenses, save, or understand loans and credit.

Non-tech-savvy Users

Elderly or rural users who may not be comfortable with financial terms or digital tools.

NGOs & Financial Literacy Programs

Organizations promoting financial awareness can use the chatbot to educate the masses.

Users of Banking or Finance Apps

Can be integrated into mobile/web apps to assist users with financial queries.

RESULTS

Preview


IBM watsonx Upgrade ? Bell Kavya Sambareddy's Account Dallas KS

Deployment spaces / FinAdvisor / FinAdvisor /

FinAdvisor Deployed Online

API reference Test **Preview**

New chat +



Quick start samples

How do I budget my monthly expenses? →

What are the metrics to value to stock? →

Type something...

RESULTS

Preview

The screenshot displays the IBM Watsonx interface for a service named 'FinAdvisor'. The top navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user account information for 'Kavya Sambareilly's Account' in 'Dallas'. The breadcrumb trail shows 'Deployment spaces / FinAdvisor / FinAdvisor /'. Below the header, the 'FinAdvisor' service is shown with a 'Deployed' status and an 'Online' tag. Three tabs are visible: 'API reference', 'Test', and 'Preview', with the 'Preview' tab being the active one. On the right side of the preview area, there is a 'New chat +' button. The chat history shows a user asking 'How do I budget my monthly expenses?' at 02:13 AM. The FinAdvisor bot responds at the same time with a step-by-step guide for creating a monthly budget. The guide includes three numbered steps: 1. Define your monthly income, 2. List all fixed and variable expenses, and 3. Allocate savings. At the bottom of the chat window is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx Upgrade ? Kavya Sambareilly's Account Dallas KS

Deployment spaces / FinAdvisor / FinAdvisor /

FinAdvisor Deployed Online

API reference Test **Preview**

New chat +

You 02:13 AM
How do I budget my monthly expenses?

FinAdvisor 02:13 AM
Creating a monthly budget can help you manage your finances effectively. Here's a simple step-by-step guide:

- 1. Define your monthly income:** Start by determining your total monthly income. This includes your salary, any side income, and other regular earnings.
- 2. List all fixed and variable expenses:** Fixed expenses are those that remain constant each month, like rent or mortgage payments, car loans, insurance premiums, and subscription services. Variable expenses can change monthly, such as groceries, dining out, entertainment, and personal care.
- 3. Allocate savings:** Aim to save at least 20% of your income. If this isn't feasible, start smaller and gradually increase your savings rate.

Type something...

RESULTS

Preview

The screenshot displays the IBM Watsonx FinAdvisor interface. At the top, a dark navigation bar includes the IBM Watsonx logo, an 'Upgrade' button, and user account information for 'Kavya Sambareddy's Account' in 'Dallas'. Below this, a breadcrumb trail shows 'Deployment spaces / FinAdvisor / FinAdvisor /'. The main header area features the 'FinAdvisor' title with 'Deployed' and 'Online' status indicators. A tabbed interface at the bottom of the header shows 'API reference', 'Test', and 'Preview' (which is currently selected). On the right side of the header, there is a 'New chat +' button. The chat area itself has a light blue background and a vertical scrollbar on the right. It contains a message from 'You' at 02:17 AM asking 'What is ROE and ROCE?'. Below this is a response from 'FinAdvisor' at 02:17 AM. The response explains that ROE (Return on Equity) and ROCE (Return on Capital Employed) are financial metrics used to assess a company's profitability and efficiency. It then provides detailed definitions for both metrics, including their formulas and what they measure. At the bottom of the chat area is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx Upgrade ? Kavya Sambareddy's Account Dallas KS

Deployment spaces / FinAdvisor / FinAdvisor /

FinAdvisor Deployed Online

API reference Test **Preview**

New chat +

You 02:17 AM

What is ROE and ROCE?

FinAdvisor 02:17 AM

ROE (Return on Equity) and ROCE (Return on Capital Employed) are financial metrics used to assess a company's profitability and efficiency.

Return on Equity (ROE):

- ROE measures how efficiently a company uses shareholders' equity to generate profit.
- It's calculated as: $ROE = \text{Net Income} / \text{Shareholder's Equity}$
- A higher ROE indicates that a company is more efficient in utilizing its shareholders' investment to generate profits.

Return on Capital Employed (ROCE):

- ROCE measures a company's profitability in relation to the capital used for the business.

Type something...

RESULTS

Deployed

The screenshot displays the IBM Watsonx user interface. At the top, a dark navigation bar includes the 'IBM watsonx' logo, an 'Upgrade' button, and user account information for 'Kavya Sambareddy's Account' in 'Dallas'. Below this, a breadcrumb trail shows 'Deployment spaces / FinAdvisor / FinAdvisor'. The main content area features the 'FinAdvisor' deployment name with a green 'Deployed' status and an 'Online' indicator. Three tabs are visible: 'API reference', 'Test', and 'Preview', with the 'Preview' tab currently selected. A 'New chat +' button is located in the top right corner of the chat area. The chat history shows a user query at 02:20 AM asking for 'Differences between technical analysis & fundamental analysis in stock'. The FinAdvisor response, timestamped at 02:20 AM, provides a detailed explanation of both analysis methods. The response includes a section titled 'Technical Analysis:' followed by a bulleted list of its characteristics. At the bottom, there is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx Upgrade Kavya Sambareddy's Account Dallas KS

Deployment spaces / FinAdvisor / FinAdvisor

FinAdvisor Deployed Online

API reference Test **Preview**

New chat +

You 02:20 AM
Differences between technical analysis & fundamental analysis in stock

FinAdvisor 02:20 AM
Technical analysis and fundamental analysis are two primary methods used by investors to evaluate and predict the future price trends of stocks. Here's a simple breakdown of the differences between the two:

Technical Analysis:

- Focuses on statistical trends gathered from trading activity, such as price movement and volume.
- It does not consider the actual assets or businesses behind the stocks.
- Technical analysts use charts and other tools to identify patterns and make trading decisions.
- They believe that all relevant information is reflected in stock prices, so future movements can be predicted by analyzing historical price data.
- It's often used for short-term trading strategies.

Type something...

CONCLUSION

- This Financial Advisor Chatbot offers a simple, safe, and accessible way for users to understand and manage their finances. Built on IBM Cloud, it delivers smart, beginner-friendly guidance while ensuring user privacy and cultural relevance. With potential to support financial literacy at scale, this chatbot can be a powerful tool in empowering individuals to make informed money decisions.

FUTURE SCOPE

- Mobile App Integration – Embed the chatbot into finance or banking apps.
- Advanced Personalization – Use user profiles (safely) to give tailored suggestions.
- Voice & Regional Language Support – Add voice input/output and more Indian languages.
- Visual Tools – Integrate graphs, calculators, and budgeting dashboards.
- Link with Real Financial APIs – For real-time interest rates, schemes, etc.
- Partner with Govt/NGOs – Support national financial literacy campaigns.

IBM CERTIFICATIONS

Getting started with Artificial Intelligence



IBM CERTIFICATIONS

Journey to Cloud

In recognition of the commitment to achieve
professional excellence



Kavya Sambareilly

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 19, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/6b0d8c18-39a0-45a6-8012-3eb981ee5acb>



IBM CERTIFICATIONS

Lab: Retrieval Augmented Generation with LangChain





THANK YOU