
CAPSTONE PROJECT

AI AGENT FOR DIGITAL FINANCIAL LITERACY

Presented By:

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College Name & Department : Sacred Heart Institute of Management and Technology(MCA)

OUTLINE

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

PROBLEM STATEMENT

- Many individuals struggle to understand and navigate essential financial tools and practices in the digital age.
- There is a lack of accessible and reliable information on topics like UPI, online scams, interest rates, and personal finance.
- This knowledge gap leads to financial insecurity, vulnerability to fraud, and a lack of confidence in digital finance.

Proposed Solution:

The RAG-powered AI Agent helps users understand digital financial tools and practices by retrieving reliable information from government portals, banking websites, and educational platforms.

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

✓ **Diverse Knowledge Base:** Provides information on a range of topics, including:

- Using UPI for payments.
- Avoiding online scams and fraud.
- Understanding interest rates and loan terms.
- Personal finance management and budgeting.

Multilingual Support: Allows users to interact in their preferred language, ensuring accessibility for diverse backgrounds.

- **Culturally Inclusive:** Delivers personalized and culturally relevant financial guidance.
- **Intuitive Q&A:** Answers user questions directly, such as:
 - “How do I send money via UPI?”
 - “What is a safe interest rate for a loan?”

END USERS

Individuals from diverse backgrounds, including those new to digital banking, students, and professionals seeking to improve their financial knowledge.

Impact:


- ❖ **Empowerment:** Equips users with essential knowledge.
- ❖ **Protection:** Helps users protect themselves from fraud.
- ❖ **Confidence:** Builds confidence in using digital financial services.
- ❖ **Accessibility:** Makes financial literacy accessible, personalized, and culturally inclusive.

RESULTS

Projects / Rudrakshi's sandbox / Agent Lab

Share feedback β Unsaved 📁 ▼ New agent + Deploy 🚀

Sample agents

**Sous Chef**
Generating tasty recipe ideas based on the ingredients they have available.

Build

AI

Model: llama-3-3-70b-instruct ▼

Agent preview

Setup

Configuration

Framework

LangGraph ▼

Architecture

ReAct ▼

Instructions

Advanced configuration

As Sous Chef, your role is to assist users in generating tasty recipe ideas based on the ingredients they have available. When a user shares their ingredients, use your understanding of cooking techniques and flavor combinations to suggest 2-3 recipe options.

Knowledge

Vector index

Select or create vector index ▼

Clear chat

If you want to add a vector index to the agent, clear the agent preview chat.

RS You: 12:15 AM

How I do monthly budget expenses?

Sous Chef 12:15 AM

To manage monthly budget expenses, you can start by identifying and estimating your monthly income and expenses. Make a list of your bills and other expenses, and use your pay stubs to determine how much money you make each month. Compare your income to your expenses to see where you can make adjustments. You can also use online budgeting tools, such as the Budget Planner or Budget Calculator, to help you create and manage your budget.

Some common monthly expenses to include in your budget are:

- Housing or rent
- Utilities (electricity, water, gas, internet)
- Food and groceries
- Transportation (car insurance, gas, maintenance)
- Insurance (health, life, disability)

Type something...

🗨️ ▶️

RESULTS

Agent preview

Remember, budgeting is a personal process. It might take some time to find a method that works for you. There are also many budgeting apps available that can help you track your expenses and stay on top of your budget.

For more detailed information, you can use online resources or search for "how to budget monthly expenses" on platforms like Google, DuckDuckGo, or Wikipedia.

▼ How did I get this answer?

1: Generating final answer

Steps created by Agent

SM You: 02:16 AM

How to analyze Stocks?

AI Financial Advisor 02:16 AM

Analyzing stocks involves research and understanding of various financial metrics. Here are some steps to guide you:

1. **Understand the Company:** Research the company's business model, management, competitive position, and growth prospects. Look at their annual reports and other financial documents.
2. **Financial Statements:** Analyze the company's income statement, balance sheet, and cash flow statement. These documents provide insights into the company's profitability, liquidity, and financial health.
3. **Key Ratios:** Calculate key financial ratios such as Price-to-Earnings (P/E) ratio, Price-to-Book (P/B) ratio, Debt-to-Equity ratio, Return on Equity (ROE), etc. These ratios can help you understand the company's value and risk.
4. **Market Trends:** Look at the broader market trends and the company's performance in relation to these trends. This can give you an idea of the company's potential for growth.
5. **News and Events:** Keep an eye on news related to the company and the industry. Major events like product launches, mergers, or regulatory changes can impact stock prices.
6. **Dividend Policy:** If you're interested in dividend-paying stocks, analyze the company's dividend history and payout ratio.
7. **Seek Professional Advice:** Consider consulting with a financial advisor or stockbroker for personalized advice.

Type something...

Agent preview

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AI Financial Advisor 02:16 AM

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For a more in-depth understanding, you can refer to financial news websites, books on stock market analysis, or online courses. Websites like Investopedia, Wikipedia, and financial news platforms can provide valuable information.

Remember, stock market investing involves risk, and past performance is not indicative of future results. Always do your own research and consider seeking advice from a qualified professional.

► How did I get this answer?



Type something...



RESULTS

Agent preview

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► How did I get this answer?

SM You: 02:19 AM

What is ROI

Financial Advisor 02:19 AM

ROI stands for Return on Investment. It's a financial metric used to measure the profitability of an investment. Essentially, ROI shows you the expected earnings from an investment relative to its cost.

Here's a simple breakdown:

1. **Calculate ROI:** The basic formula for ROI is: $(\text{Net Profit} / \text{Cost of Investment}) \times 100$.
2. **Net Profit:** This is the total revenue from the investment minus all costs associated with the investment.
3. **Cost of Investment:** This includes the initial costs of the investment, such as purchase price, installation costs, etc.
4. **Interpretation:** The result is a percentage that represents the gain from the investment as a proportion of the investment cost. A higher percentage means a more profitable investment.

For example, if you bought a stock for \$1,000 and sold it for \$1,500, your net profit would be \$500. So, your ROI would be $(\$500 / \$1,000) \times 100 = 50\%$.

ROI is a useful tool for comparing the efficiency of different investments. However, it's important to consider other factors like risk involved, time frame, and liquidity of the investment.

For more detailed information, you can refer to financial resources, investment books, or online courses. Websites like Investopedia, Wikipedia, and the official websites of financial institutions can provide comprehensive explanations and examples.

► How did I get this answer?



Type something...



Agent preview

SM You: 02:21 AM

What do you mean by an SIP?

Financial Advisor 02:21 AM

SIP stands for Systematic Investment Plan. It's a method used by individuals to invest a fixed sum of money in a mutual fund scheme at regular intervals, regardless of the fluctuating market positions.

Here's a simple breakdown of how it works:

1. **Choose a Mutual Fund:** Select a mutual fund scheme that aligns with your investment goals and risk tolerance.
2. **Decide on the Amount:** Determine the amount you wish to invest regularly. This could be monthly, quarterly, or any interval that suits your budget.
3. **Set Up the SIP:** Open a Systematic Investment Plan with the chosen mutual fund. You can usually do this online through the fund house's website or mobile app.
4. **Regular Investments:** On the agreed date, the predetermined amount will be deducted from your bank account and invested in the mutual fund.
5. **Benefit of Rupee Cost Averaging:** With a SIP, you buy more units when the price is low and fewer units when the price is high. This strategy, known as rupee cost averaging, can reduce the impact of volatility on the overall purchase.
6. **Flexibility:** Most SIPs allow you to increase or decrease the investment amount, skip a payment, or stop the SIP altogether as per your financial situation and goals.

SIPs are popular for their discipline in investing, making it easier to adopt a long-term investment strategy. They are often recommended for beginners due to their simplicity and the advantage of dollar-cost averaging.

For more detailed information, you can refer to the websites of mutual fund associations, financial news platforms, or use search engines like Google or DuckDuckGo to look up articles and guides on SIPs. Always ensure you're getting information from trusted financial sources.

► How did I get this answer?



Type something...



RESULTS

Deployed AI Agent

The screenshot displays the IBM watsonx user interface. At the top, the navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and the user's account information: 'Rudrakshi Singh's Account', 'Dallas', and a profile icon labeled 'RS'. Below the navigation bar, the breadcrumb trail reads 'Deployment spaces / Agentic_AI_01 / Sous Chef /'. The main content area is titled 'Sous Chef' with a green checkmark and the status 'Deployed Online'. It features four tabs: 'API reference', 'Test', 'Evaluations', and 'Preview', with the 'Preview' tab currently selected. The preview content shows a response to a query about ROI, listing various business and finance applications. A 'New chat +' button is located to the right of the preview content. On the right side of the interface, a sidebar titled 'About this deployment' provides detailed information about the agent, including its name, description, deployment ID, serving name, software and hardware specifications, and associated assets.

IBM watsonx Upgrade ? 🔔 Rudrakshi Singh's Account Dallas RS

Deployment spaces / Agentic_AI_01 / Sous Chef /

Sous Chef

✔ Deployed Online

API reference Test Evaluations **Preview**

ROI can be applied to various aspects of business and finance, such as:

- Financial investments (e.g., stocks, bonds, real estate)
- Marketing campaigns
- Project management
- Business expansion
- Training and development programs

A higher ROI indicates a more efficient use of resources, while a lower ROI may indicate that an investment is not generating sufficient returns.

► How did I get this answer?

🔄

Type something... ➤

New chat +

About this deployment

Name
Sous Chef

Description
Generating tasty recipe ideas based on the ingredients they have available.

Deployment Details
Deployment ID: 67700a5f-311c-4b...
Serving name: No serving name.
Software specification: runtime-24.1-py3.11 ⚙️
Hardware specification: Extra extra small: 1 CPU and 2 GB RAM
Copies: 1

Tags
wx-agent

Associated asset
Sous Chef

CONCLUSION

- Leverages RAG to bridge the financial knowledge gap.
- Provides reliable, multilingual, and personalized information.
- Empowers users with confidence.
- Protects them from common pitfalls in the digital financial world.

FUTURE SCOPE

- **Integration with Financial Planning Tools:** Connect with budgeting and investment apps for a seamless user experience.
- **AI-Assisted Financial Goal Setting:** Help users set and track personal financial goals.
- **Interactive Simulations:** Provide a safe environment for users to practice financial scenarios like investing or loan management.
- **Partnerships with Financial Institutions:** Collaborate with banks and financial advisors to offer direct, expert guidance.

GITHUB LINK

- Git hub link: <https://github.com/rudrakshisingh16/AI-Agent-for-Digital-Financial-Literacy.git>

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Rudrakshi Singh

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 23, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/31c57a88-a58b-4714-8a89-8fb120c93d87>



IBM SkillsBuild

Completion Certificate



This certificate is presented to

Rudrakshi Singh

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 27 Jul 2025 (GMT)

Learning hours: 20 mins

In recognition of the commitment to achieve
professional excellence



Rudrakshi Singh

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 27, 2025
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THANK YOU