
CAPSTONE PROJECT

AI AGENT FOR DIGITAL FINANCIAL LITERACY

Presented By:

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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 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

Agent preview



Financial Advisor 02:14 AM

Welcome to Financial Advisor

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



Sample questions

How do I budget monthly expenses?



What is 60-30-20 budgeting rule?



How to start investing?



What is ROI



Type something...



Agent preview



You: 02:14 AM

How do I budget monthly expenses?



Financial Advisor 02:14 AM

Hi, I am Finance Advisor. Budgeting your monthly expenses is a great way to manage your finances. Here are some simple steps to help you get started:

1. **Identify your income:** Determine how much money you earn each month after taxes.
2. **List your expenses:** Write down all your regular monthly expenses. These can be categorized into needs (like rent, utilities, groceries) and wants (like dining out, entertainment).
3. **Set financial goals:** Whether it's saving for a vacation, paying off debt, or building an emergency fund, knowing your goals can help you allocate your income effectively.
4. **Create a budget plan:** Allocate your income to cover your expenses and savings goals. There are various budgeting methods like the 50/30/20 rule (50% for needs, 30% for wants, 20% for savings), zero-based budgeting, etc. Choose one that suits you best.
5. **Track your spending:** Keep a record of your actual spending throughout the month to see if you're sticking to your budget. Adjust as necessary.
6. **Review and adjust:** At the end of the month, review your budget. Did you overspend in certain categories? Adjust your budget for the next month accordingly.

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?**



Type something...



RESULTS

Agent preview

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▼ 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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7. **Seek Professional Advice:** Consider consulting with a financial advisor or stockbroker for personalized advice.

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

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?

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?

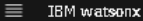



Type something...



RESULTS

Deployed AI Agent


 Upgrade ?  Shivansh Mudgal's Account Dallas SM

Deployment spaces / Financial Advisor / Financial Advisor


Financial Advisor Deployed Online

API reference Test Evaluations **Preview**

New chat +

 You 01:14 AM


What is ROI?

 Financial Advisor 01:14 AM

ROI stands for Return on Investment. It's a performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments.

Here's a simple breakdown:

- Formula:** ROI is calculated by subtracting the initial value of the investment from the final value of the investment (including dividends, interest, or any other cash flows), dividing that amount by the initial value, and then multiplying by 100 to get a percentage.
- Interpretation:** A positive ROI indicates a profitable investment, while a negative ROI signals a loss on the investment. The higher the ROI, the more profitable the investment.
- Use:** ROI is often used to compare investment opportunities. For example, if Investment A has an ROI of 10% and Investment B has an ROI of 15%, Investment B is considered more profitable.

Type something... 

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/shivanshmudgal/AI-Agent-for-Digital-Financial-Literacy>

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



Shivansh Mudgal

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 20, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/5a660b6e-fbb7-462a-9038-c53ce388179f>



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Shivansh Mudgal

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 20 Jul 2025 (GMT)

Learning hours: 20 mins

In recognition of the commitment to achieve
professional excellence



Shivansh Mudgal

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



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THANK YOU