



AI Agent for Financial Literacy

This project focuses on building an intelligent AI Agent capable of educating users about essential financial concepts such as UPI, EMI, loans, credit scores, and preventing online scams. It provides guidance in an interactive and bilingual manner.

Presented by:

Archita Sinha

IBM SkillBuild Virtual Internship

Edunet Foundation

Technology & Platform:

IBM Cloud & [Watsonx.ai](https://www.watsonx.ai)

GitHub: github.com/architaa1/AI-Agent-for-Financial-Literacy



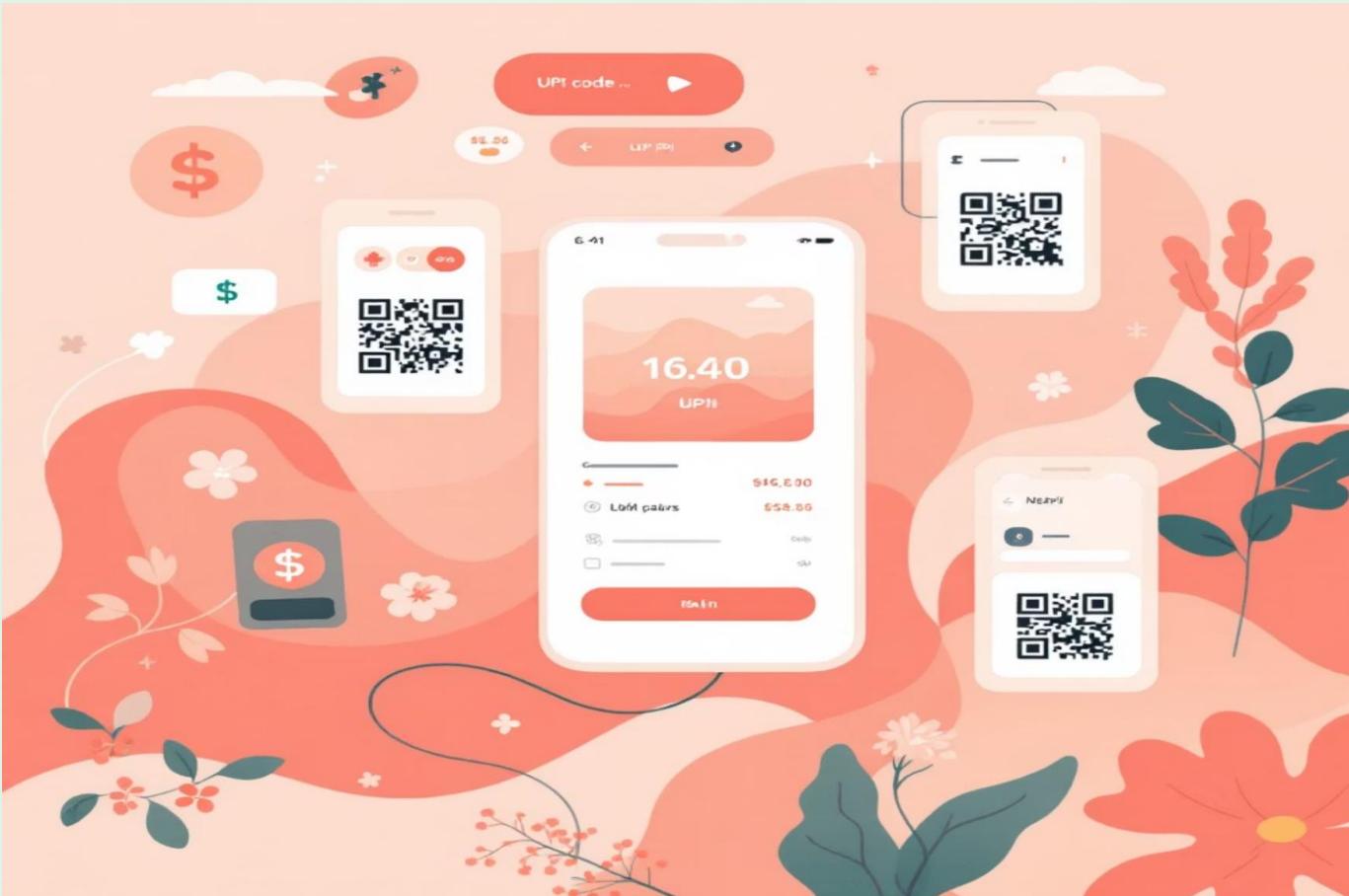
Imagine
you're at your local tea shop, and the owner gets a
gets a “You've won cashback! Click here” UPI
UPI message.

One click later... ₹5,000 is gone. Instant shock, instant
instant lesson..

The Financial Literacy Gap in India

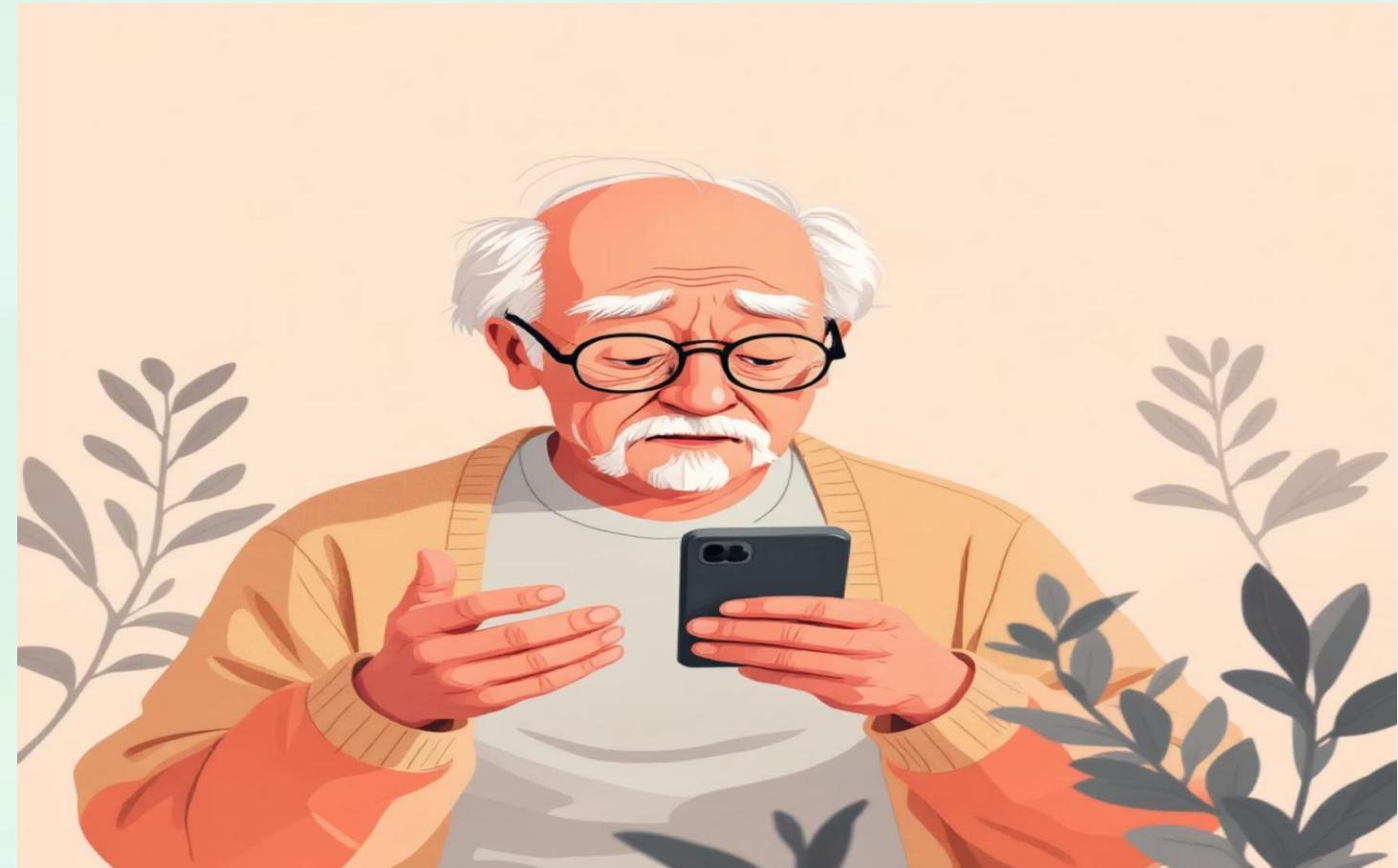
Digital India

Rapid adoption of digital transactions and UPI apps.



Confused Citizen

Many citizens are puzzled by complex financial concepts.



Knowledge Deficit



Security Risks



Language Barrier



Objective: Bridging the Knowledge Gap

→ **Bilingual Guidance**

Step-by-step support in English and Hindi.

→ **Empower Decisions**

Enabling smarter, more confident financial choices.

→ **Close the Gap**

Connecting technology with understanding.

Accessibility for All: The Beneficiaries



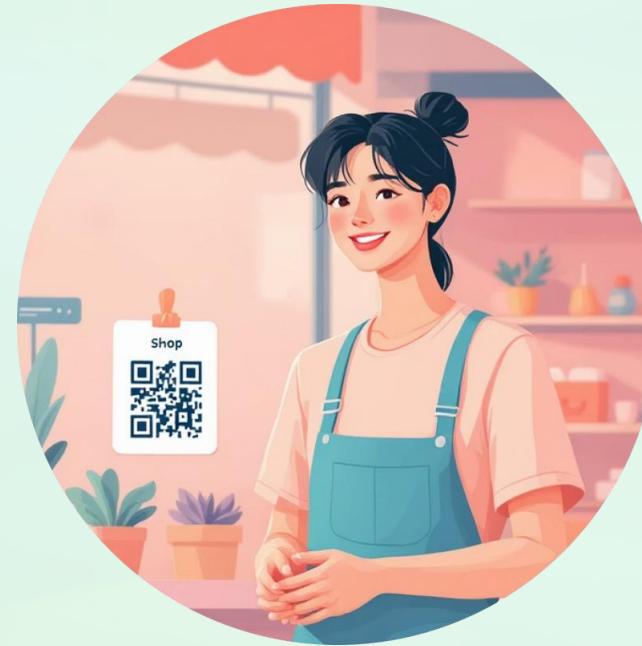
Students

Learning financial basics early.



Senior Citizens

Navigating the digital economy safely.



Small Business Owners Owners

Managing business finances efficiently.



Rural Users

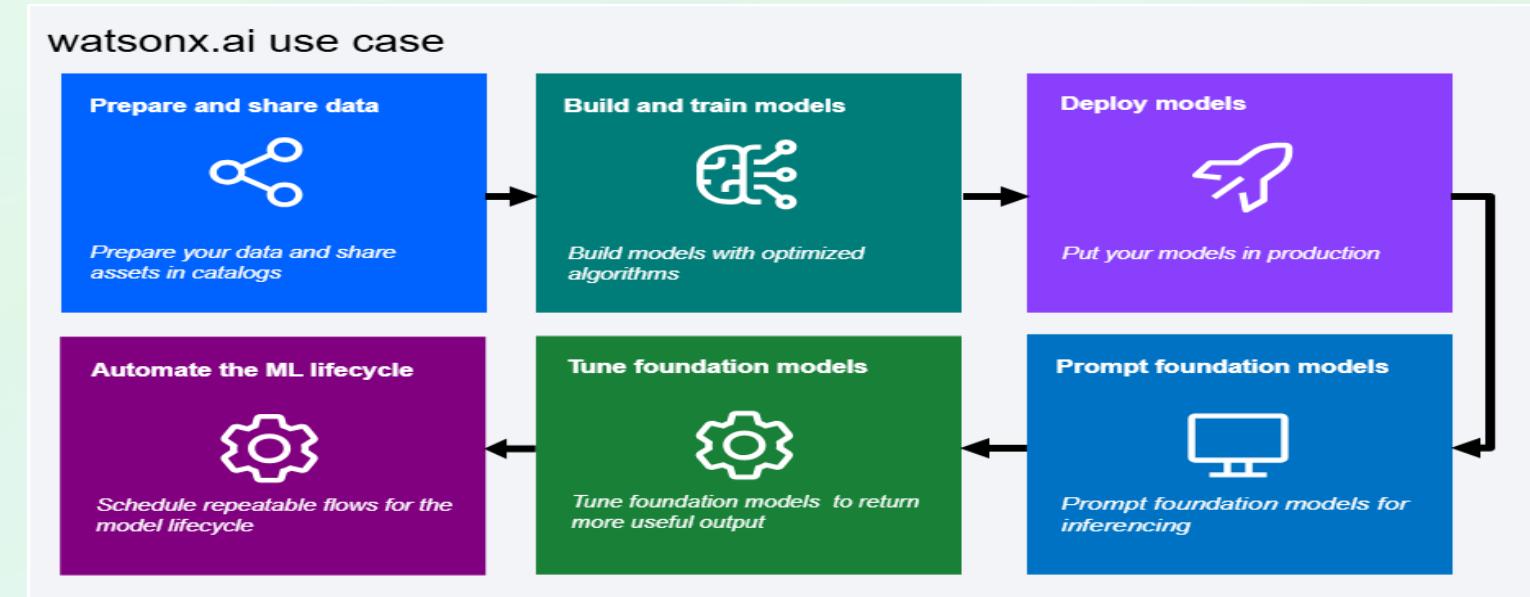
Accessing information in local languages.

Key Tools and Technologies



Watsonx.ai

Foundation Model for core intelligence.



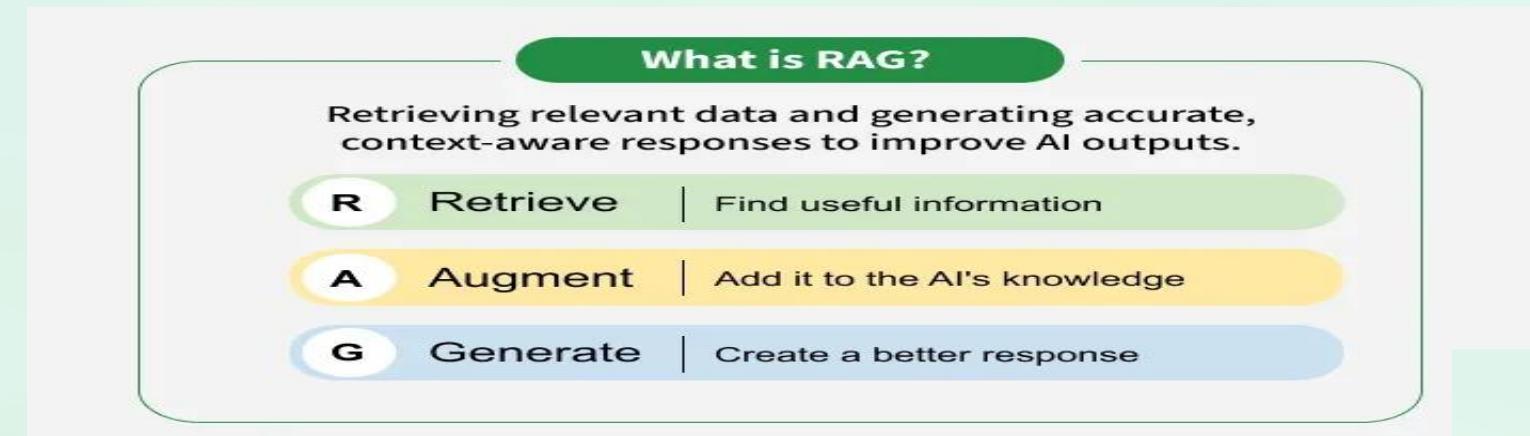
LangChain

Orchestration of RAG pipeline.



RAG

Grounded, verifiable answers.

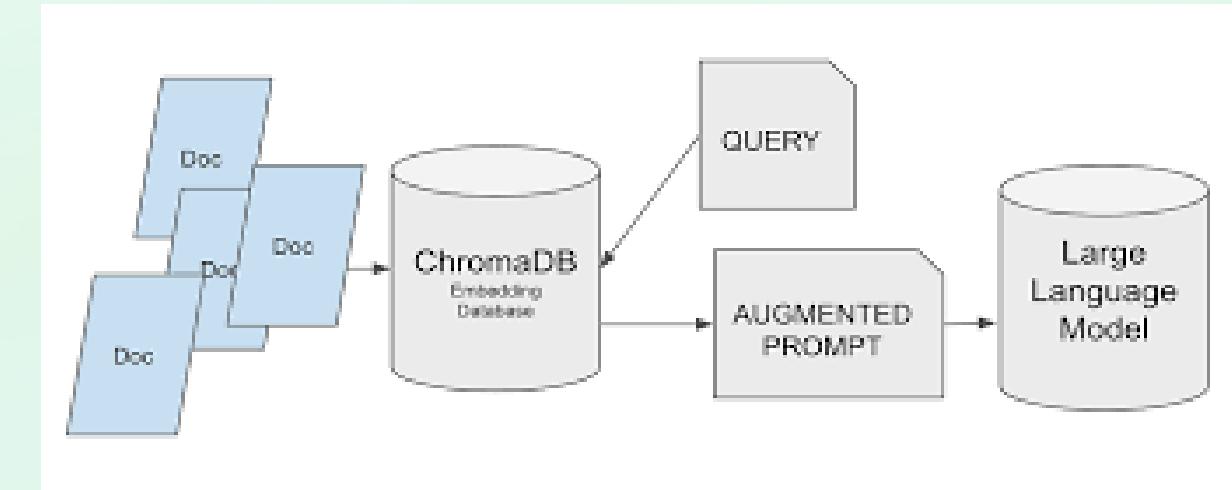


Key Tools and Technologies



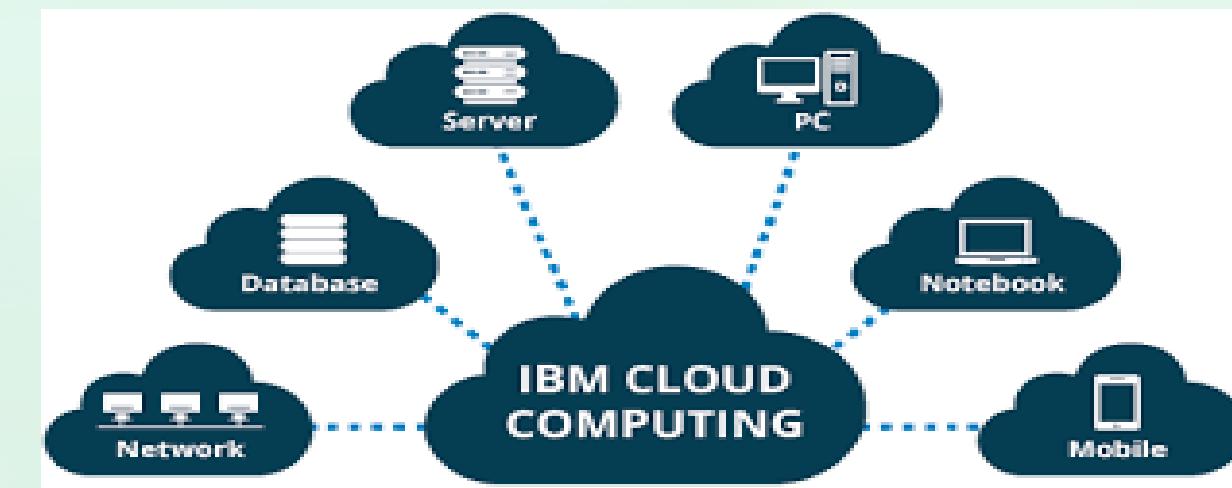
ChromaDB

Vector database for knowledge storage.



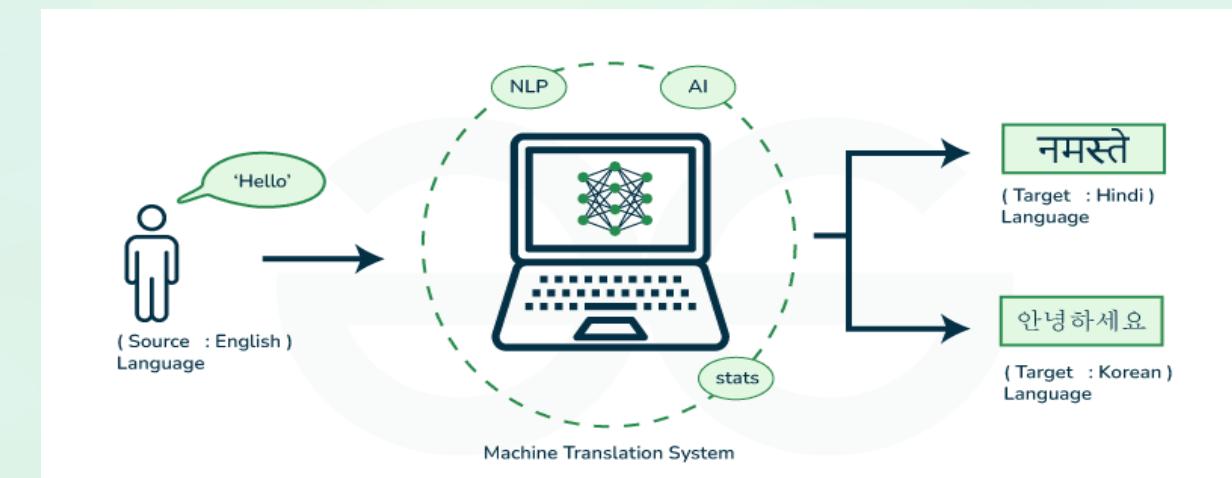
IBM Cloud

Secure and scalable infrastructure.



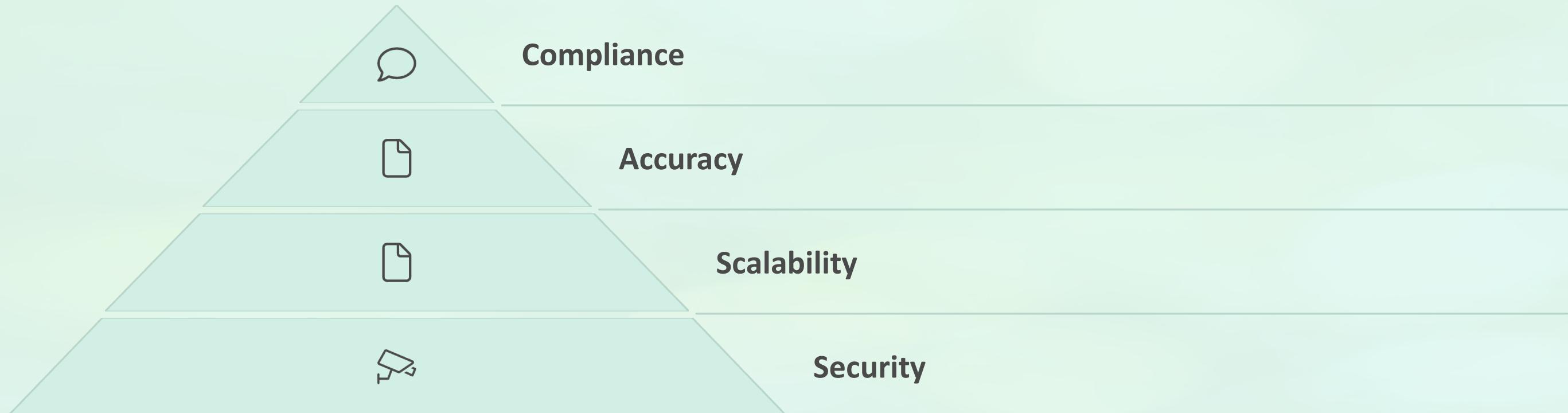
Translator

Bilingual support (English + Hindi).



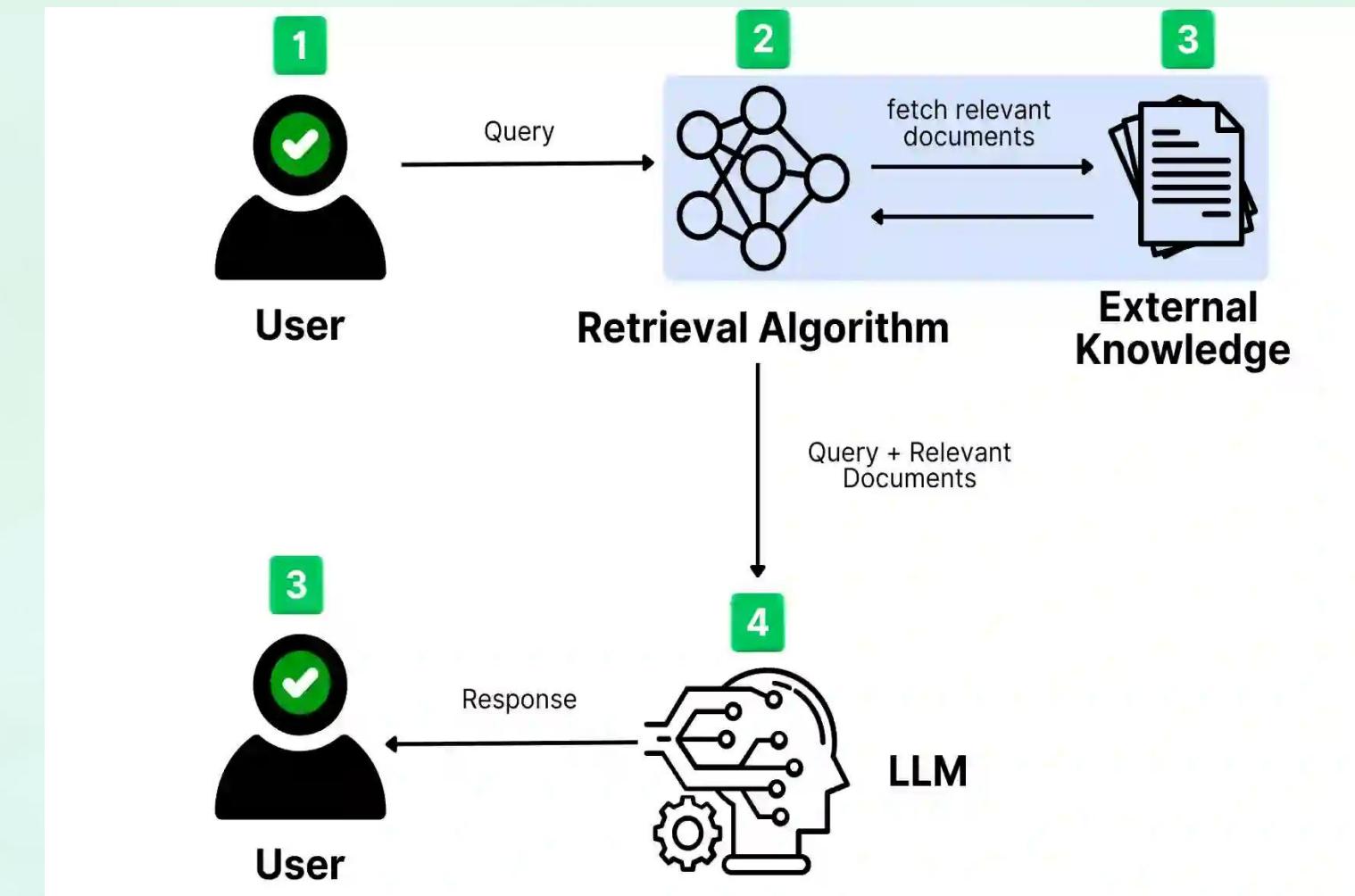
Why These Technologies?

“It’s not just a chatbot. It’s a trustworthy teacher.”



Reinforcing trust through a layered, protective tech stack.

System Architecture: RAG Workflow



A circular flow simplifying the Retrieval-Augmented Generation (RAG) process.



RAG in Action: Grounded Answers

The system reads verified documents before generating a response.



User Query

“What is UPI?”

Retrieval

Searching verified financial documents.

Bilingual Answer

Response in Hindi + English.

Grounded in real data. Not guesses.

Demo Overview: Real-World Testing

The system's capabilities were validated by testing it against typical user financial queries, showcasing its multilingual and computational strengths.



UPI Setup Guidance

Provided clear, step-by-step UPI setup instructions in Hindi.



EMI Calculation

Calculated monthly EMI values accurately based on user inputs.



Credit Score Advisory

Explained credit score factors and offered improvement tips using contextual recall.

The demo confirmed the system's ability to handle multilingual needs, complex calculations, and contextual conversations—proving its utility as a genuine financial learning tool.

Build



Model: mistral-large



Setup

Configuration

Framework

LangGraph

Architecture

ReAct

Instructions

Advanced configuration

world examples and analogies where helpful. Keep the tone warm, clear, and non-technical.

If asked in a regional language, respond in that language. If unsure, respond in English with a clarification request.

Knowledge

Tools

Add a tool

Create custom tool

Added tools (5)

Agent preview

AS You: 08:06 PM

Tell me how to avoid online banking scams.

watsonx Agent 08:06 PM

Sure, here are some tips to avoid online banking scams:

- 1. Use Strong Passwords:** Create strong, unique passwords for your online banking accounts. Avoid using easily guessable information like your birthdate or name.
- 2. Enable Two-Factor Authentication (2FA):** This adds an extra layer of security. Even if someone gets your password, they'll need a second form of identification to access your account.
- 3. Be Cautious of Phishing Emails:** Scammers often send emails that look like they're from your bank, asking you to click a link and enter your login details. Always check the sender's email address and look for any suspicious signs.
- 4. Avoid Public Wi-Fi:** Public Wi-Fi networks can be easily hacked. If you must use one, avoid accessing your online banking.
- 5. Keep Your Software Up to Date:** Regularly update your operating system, browser, and antivirus software to protect against the latest threats.

Type something...



Build

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If asked in a regional language, re-
clarification request.

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Model: mistral-large



Agent preview

mistral-large

Provider: Mistral AI | Version: 2.0 | Type: Provided model

Question answering

Summarization

Retrieval-Augmented Generation(...

Classification

Generation

Code generation and conversion

Extraction

Translation

Function calling

4. **Avoid Public Wi-Fi:** Public Wi-Fi networks can be easily hacked. If you must use one, avoid accessing your online banking.

5. **Keep Your Software Up to Date:** Regularly update your operating system, browser, and antivirus software to protect against the latest threats.

Type something...



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Be Cautious of Phishing Emails: Scammers often send emails that look like they're from your bank, asking you to click a link and enter your login details. Always check the sender's email address and look for suspicious signs.

Avoid Public Wi-Fi: Public Wi-Fi networks can be easily hacked. If you must use one, avoid connecting to unsecured networks while conducting online banking.

Keep Software Up to Date: Regularly update your operating system, browser, and antivirus software to protect against the latest threats.

LANGGRAPH ARCHITECTURE

Generate answer from the RAG framework by feeding retrieved documents

Grade the relevance of the Generated Answer

END

Non Relevant

Return an exception message

Relevant

Return the generated answer

Build

Model: mistral-large [▲](#)

Setup

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Instructions

Advanced configuration

You are an AI Financial Literacy Assistant designed to help users understand digital finance, especially in India. Your job is to provide simple, accurate, and culturally relevant answers in multiple languages.

You assist users with:

- Using UPI and digital payment systems
- Avoiding online scams and fraud
- Budgeting and savings
- Understanding loan interest rates and EMIs
- Using mobile banking apps and services
- Basic tax literacy (optional)

Always give answers suitable for users with little or no prior financial knowledge. Include real-world examples and analogies where helpful. Keep the tone warm, clear, and non-technical.

If asked in a regional language, respond in that language. If unsure, respond in English with a clarification request.

Build

IBM watsonx

Projects / AI Agent for Digital Financial Literacy / AI Agent for Digital Financial Literacy

Share feedback Upgrade Archita Sinha's Account Dallas AS

Select a tool

Choose a tool to add to your agent.

Search for a tool

<input checked="" type="checkbox"/> Google search Retrieve information from the internet with the Google search engine.	<input checked="" type="checkbox"/> DuckDuckGo search Retrieve information from the internet with the DuckDuckGo search engine.	<input checked="" type="checkbox"/> Wikipedia search Retrieve information from Wikipedia articles.	<input type="checkbox"/> Document search Search documents with vector indexes.	<input type="checkbox"/> Tavily search Retrieve information from the internet with the Tavily search engine.
<input checked="" type="checkbox"/> Webcrawler Retrieve information from a website.	<input type="checkbox"/> Python Interpreter Execute Python code generated by the agent.	<input checked="" type="checkbox"/> Weather Retrieve the weather of a city.		

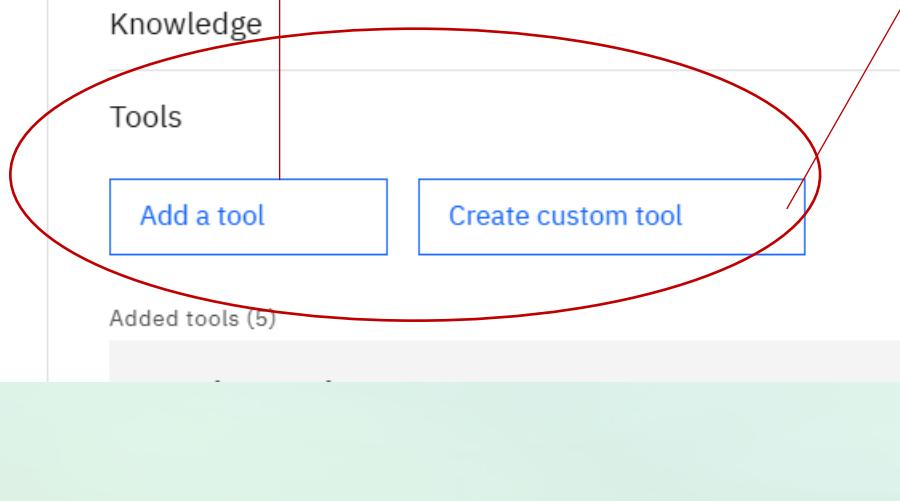
Close

3:06 PM Some tips to avoid online banking scams:

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Two-Factor Authentication (2FA): This adds an extra layer of security. Even if someone gets your password, they'll need a second form of identification to access your account.

Be Cautious of Phishing Emails: Scammers often send emails that look like they're from your bank, but aren't. Verify the sender's email address and the subject line before clicking on any links.



Create custom tool

Define the details of your custom tool. Test and debug your tool by providing test inputs. [Learn more](#)

Define Configure Test

Name

Tool description

Input JSON Schema

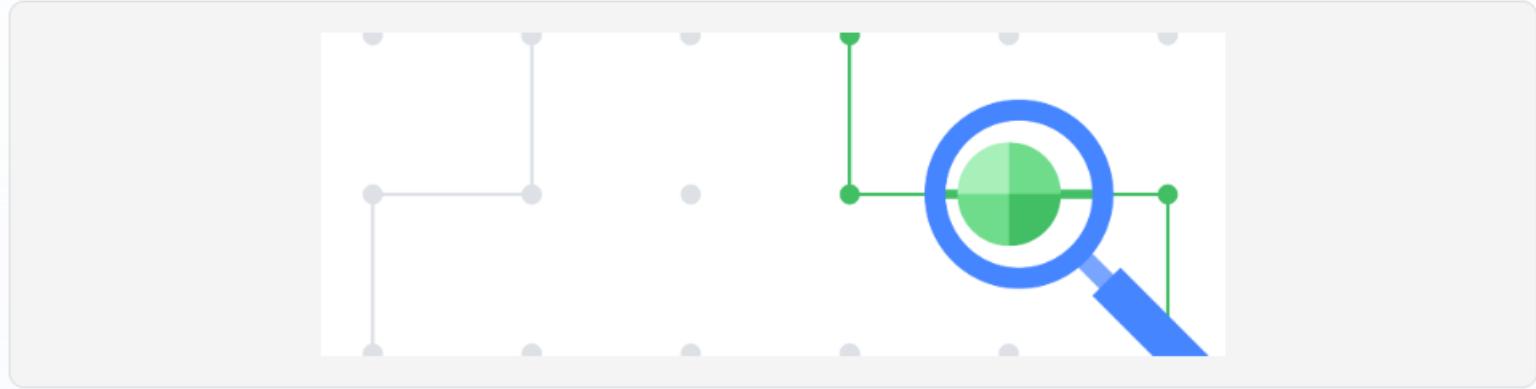
```
1 def multiply (number_1, number_2):  
    return number_1 * number_2
```

Cancel Create

AI Agent for Digital Financial Literacy 12:24 AM

Welcome to AI Agent for Digital Financial Literacy

AI Agent for Digital Financial Literacy



Quick start samples

What is UPI and how does it work? →

How can I protect myself from online banking fraud? →

मुझे बैंक से लोन लेने के लिए क्या करना होगा? →

How should I plan my monthly budget if I earn ₹25,000? →

Type something... ➤

AI Agent for Digital Financial Literacy

Deployed

[API reference](#)[Test](#)[Evaluations](#)[Preview](#)

AI agent is installed, configured, and published on the **IBM Cloud**.
The AI agent is **live** and ready for user interaction.

[New chat +](#)

You 08:50 PM

How can I protect myself from online banking fraud?



AI Agent for Digital Financial Literacy 08:50 PM

To protect yourself from online banking fraud, you can take several steps:

1. Keep your devices secure by installing anti-virus software and keeping your operating system and browser up to date.
2. Verify the authenticity of websites by checking for "https" in the URL and looking for a lock icon in the address bar.
3. Monitor your accounts regularly to detect any suspicious activity.
4. Be cautious with links and attachments in emails and text messages, as they may be phishing scams.
5. Invest in additional safety measures such as two-factor authentication and password managers.
6. Vary your passwords and avoid using the same password for multiple accounts.
7. Charge your credit card instead of your debit card for online transactions.
8. Report any suspicious activity to your bank and the Federal Trade Commission (FTC).



AI Agent for Digital Financial Literacy

✓ Deployed Online

[API reference](#)[Test](#)[Evaluations](#)[Preview](#)[New chat +](#)

You 08:51 PM

मुझे बैंक से लोन लेने के लिए क्या करना होगा?

AI Agent for Digital Financial Literacy 08:51 PM

बैंक से लोन लेने के लिए, आपको निम्नलिखित चरणों का पालन करना होगा:

1. अपनी आवश्यकता और योग्यता के अनुसार लोन का चयन करें।
2. बैंक की वेबसाइट पर जाकर लोन के लिए ऑनलाइन आवेदन करें।
3. आवश्यक दस्तावेजों को जमा करें, जैसे कि आय प्रमाण, पता प्रमाण, पहचान प्रमाण, और अन्य।
4. बैंक के प्रतिनिधि से संपर्क करें और लोन की प्रक्रिया के बारे में जानकारी प्राप्त करें।
5. लोन की शर्तों और दरों को समझें और उन्हें स्वीकार करें।
6. लोन की स्वीकृति के बाद, बैंक आपको लोन की राशि प्रदान करेगा और आप अपने वित्तीय लक्ष्यों को प्राप्त करने के लिए इसका उपयोग कर सकते हैं।

यह ध्यान रखें कि लोन की प्रक्रिया और शर्तें बैंक और लोन के प्रकार के अनुसार भिन्न हो सकती हैं। इसलिए, यह महत्वपूर्ण है कि आप बैंक के साथ संपर्क में



Impact and Measurable Results

95%

Accuracy

High precision in financial information delivery.

60%

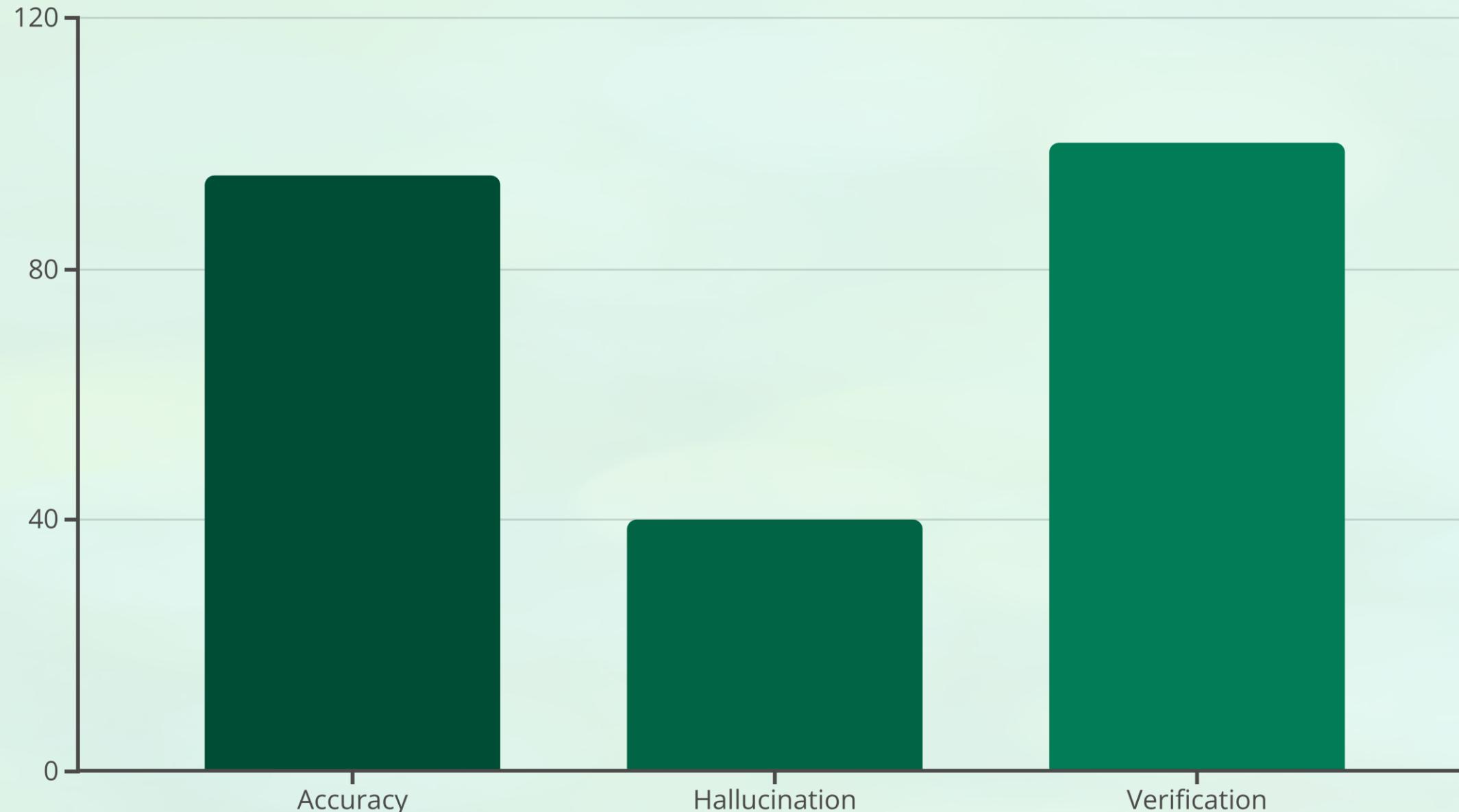
Hallucination Reduction

Significant decrease in fabricated responses.

100%

Verified Calculations

Accurate EMI and financial calculations.



Challenges & Future Scope



Future Milestones

