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# **IBM AICTE PROJECT**

## **AI AGENT FOR DIGITAL FINANCIAL LITERACY**

**PRESENTED BY:**

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EDUCATION AND RESEARCH**

**DEPARTMENT: ARTIFICIAL INTELLIGENCE & DATA SCIENCE**

# OUTLINE

- Problem Statement
- Proposed Solution
- System Development Approach
- Result
- Conclusion
- Future Scope
- GitHub Link
- Certificates

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# PROBLEM STATEMENT

- In the rapidly evolving digital economy, a significant portion of the population—particularly rural citizens, elderly individuals, and first-time digital users—struggles with understanding basic financial tools such as UPI, online banking, and digital budgeting. This lack of financial literacy not only hinders their ability to participate confidently in digital transactions but also exposes them to a higher risk of fraud, misinformation, and financial exploitation.

# PROPOSED SOLUTION

- The proposed system, FinGuide AI, addresses the challenge of low digital financial literacy by providing users with a conversational AI assistant capable of delivering accurate, multilingual financial guidance. The system is powered by IBM Cloud, Watsonx.ai, and IBM Granite for retrieval-augmented generation (RAG) support.
- **Content Retrieval:**
  - Fetches trusted financial content from government portals, banking websites, and educational platforms.
  - Covers key topics like UPI, budgeting, loan interest, fraud prevention, and online banking basics.
- **Data Preprocessing:**
  - Cleans and categorizes retrieved documents to maintain factual accuracy and language clarity.
  - Maps documents to multilingual intents for regional language accessibility.
- **AI & NLP:**
  - Utilizes IBM Watsonx.ai and Granite for RAG-based natural language understanding and response generation.
  - Supports multilingual interactions and personalized responses using custom prompts and fine-tuned models.
- **Deployment:**
  - Hosted on IBM Cloud Lite services for scalable, secure, and cost-efficient deployment.
  - Integrates with a chatbot/web interface for real-time interaction across devices.
- **Evaluation:**
  - User feedback collected through live demo interactions and usage analytics.
  - System is improved continuously based on language relevance, accuracy, and accessibility.

# SYSTEM APPROACH

## System Requirements:

IBM Cloud Lite account (for hosting and deployment)

IBM Watsonx.ai / Granite model (for Retrieval-Augmented Generation)

Watson Discovery / IBM Cloud Object Storage (for storing and retrieving documents)

Python 3.x (for scripting and model integration)

Flask / Streamlit (for frontend chatbot interface)

Multilingual Dataset (financial literacy data in English, Hindi, Marathi, etc.)

## Libraries Required:

ibm-watson – for interacting with Watson services

transformers – for LLM-based response generation

langchain – for RAG-based architecture

pandas, numpy for data processing; Flask or Streamlit for web interface; nltk, spacy for NLP and text preprocessing.

# RESULTS: SETTING UP

IBM watsonx

Upgrade ? Bell Prateeksha Patil's Account Dallas PP

Projects / FinGuide AI / FinGuide AI

Share feedback Autosaved 1:44 PM New agent + Deploy

## Build

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

### Setup

Name

FinGuide AI

Description 100/100

Aims to develop an intelligent virtual assistance that enhances financial awareness & digital safety

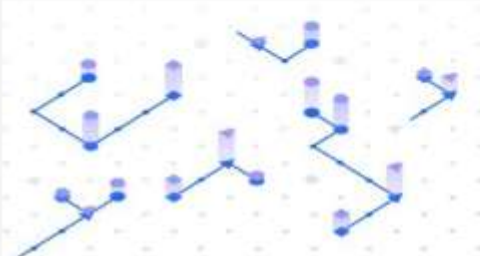
Icon Placeholder Image

Quick start questions

Add up to 4 quick start questions that your users can select.

## Agent preview

safety



### Sample questions

How do I report a phishing website or fraud transaction? →

What's the difference between secured and unsecured loans? →

Who is eligible for the Sukanya Samridhi Yojana? →

Can I link multiple bank accounts to one UPI app? →

Type something...

# RESULTS: AGENT PREVIEW

IBM watsonx

Upgrade ?

Prateeksha Patil's Account

Dallas

PP

Projects / FinGuide AI / FinGuide AI

Share feedback

Autosaved 1:50 PM

New agent +

Deploy

Build

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

Agent preview

Setup

Name

FinGuide AI

Description 100/100

Aims to develop an intelligent virtual assistance that enhances financial awareness & digital safety

Icon

Placeholder Image

Quick start questions

Add up to 4 quick start questions that your users can select.

You: 01:50 PM

How do I report a phishing website or fraud transaction?

FinGuide AI 01:50 PM

To report a phishing website or fraudulent transaction, follow these steps:

1. **Do not click on any links or download any attachments from the suspicious message.** This can further compromise your personal information.
2. **Do not reply to the message.** Responding can confirm to the scammers that your email address is active.
3. **Report the phishing attempt to your bank or financial institution immediately.** They can guide you on the next steps and may have specific procedures for reporting fraud.
4. **Report the phishing attempt to the appropriate authorities.** In India, you can report cybercrime to the cybercrime portal at <https://cybercrime.gov.in>.
5. **Report phishing websites to Google Safe Browsing.** You can do this by visiting <https://transparencyreport.google.com/safebrowsing/search> and following the instructions.
6. Report phishing emails to the organization that was impersonated. Most legitimate

Type something...

# RESULTS: TOOLS USED (ALSO USED VECTOR DATABASE INDEX)

The screenshot displays the IBM watsonx AI interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and a user profile for 'Prateeksha Patil's Account' with a location dropdown set to 'Dallas'. Below the navigation bar, the breadcrumb trail shows 'Projects / FinGuide AI / FinGuide AI'. The main interface is divided into two panels. The left panel, titled 'Build', contains buttons for 'Add a tool' and 'Create custom tool'. Below these, a list of 'Added tools (5)' is shown: '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.), and 'Weather' (Retrieve the weather of a city.). The right panel, titled 'Agent preview', shows a chat conversation. The user's message is 'How do I report a phishing website or fraud transaction?'. The AI's response is 'To report a phishing website or fraudulent transaction, follow these steps:'. The response is followed by a numbered list of six steps: 1. Do not click on any links or download any attachments from the suspicious message. This can further compromise your personal information. 2. Do not reply to the message. Responding can confirm to the scammers that your email address is active. 3. Report the phishing attempt to your bank or financial institution immediately. They can guide you on the next steps and may have specific procedures for reporting fraud. 4. Report the phishing attempt to the appropriate authorities. In India, you can report cybercrime to the cybercrime portal at <https://cybercrime.gov.in>. 5. Report phishing websites to Google Safe Browsing. You can do this by visiting <https://transparencyreport.google.com/safebrowsing/search> and following the instructions. 6. Report phishing emails to the organization that was impersonated. Most legitimate organizations have procedures in place for reporting phishing attempts. At the bottom of the chat panel is a text input field with the placeholder 'Type something...' and a send button.

IBM watsonx

Upgrade ? Bell Prateeksha Patil's Account Dallas PP

Projects / FinGuide AI / FinGuide AI Share feedback Autosaved 1:50 PM New agent + Deploy

**Build** AI Model: granite-3-3-8b-instruct

Add a tool Create custom tool

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**

YOU: 01:50 PM  
How do I report a phishing website or fraud transaction?

FinGuide AI 01:50 PM  
To report a phishing website or fraudulent transaction, follow these steps:

1. **Do not click on any links or download any attachments from the suspicious message.** This can further compromise your personal information.
2. **Do not reply to the message.** Responding can confirm to the scammers that your email address is active.
3. **Report the phishing attempt to your bank or financial institution immediately.** They can guide you on the next steps and may have specific procedures for reporting fraud.
4. **Report the phishing attempt to the appropriate authorities.** In India, you can report cybercrime to the cybercrime portal at <https://cybercrime.gov.in>.
5. **Report phishing websites to Google Safe Browsing.** You can do this by visiting <https://transparencyreport.google.com/safebrowsing/search> and following the instructions.
6. **Report phishing emails to the organization that was impersonated.** Most legitimate organizations have procedures in place for reporting phishing attempts.

Type something...



# RESULTS: DEPLOYED AI AGENT

IBM watsonx

Upgrade

Prateeksha Patil's Account

Dallas

PP

Deployment spaces / FinGuide AI / FinGuide AI

FinGuide AI

Deployed

Online

API reference

Test

Evaluations

Preview

New chat +

FinGuide AI 01:59 PM

## Welcome to FinGuide AI

Aims to develop an intelligent virtual assistance that enhances financial awareness & digital safety

### Quick start samples

Type something...

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# CONCLUSION

- FinGuide AI demonstrates how machine learning and NLP can be effectively leveraged to simplify and personalize financial guidance. By processing user inputs and analyzing financial data, the system offers accurate, real-time recommendations. Built on IBM Cloud, it ensures scalability, reliability, and seamless deployment. This project highlights the potential of AI to make financial literacy more accessible and user-friendly.

# FUTURE SCOPE

- **Multilingual Expansion:**
  - Extend support to more regional languages to reach a wider and more diverse audience.
- **Mobile App Development:**
  - Launch a user-friendly mobile application for better accessibility and real-time usage.
- **Real-Time Market Integration:**
  - Incorporate live data feeds for stocks, loans, and interest rates to enhance personalized advice.
- **Advanced NLP Implementation:**
  - Upgrade to more powerful transformer models for deeper understanding of user queries.
- **Voice Assistant Support:**
  - Enable voice-based interaction to make financial literacy accessible to non-text users.

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## GITHUB LINK

- <https://github.com/prateeksha34/Digital-Finance-Litracy-AI-agent>

# IBM CERTIFICATIONS

■ Screens

In recognition of the commitment to achieve  
professional excellence



## Prateeksha Patil

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



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## Prateeksha Patil

Has successfully satisfied the requirements for:

### Journey to Cloud: Envisioning Your Solution



Issued on: Jul 21, 2025

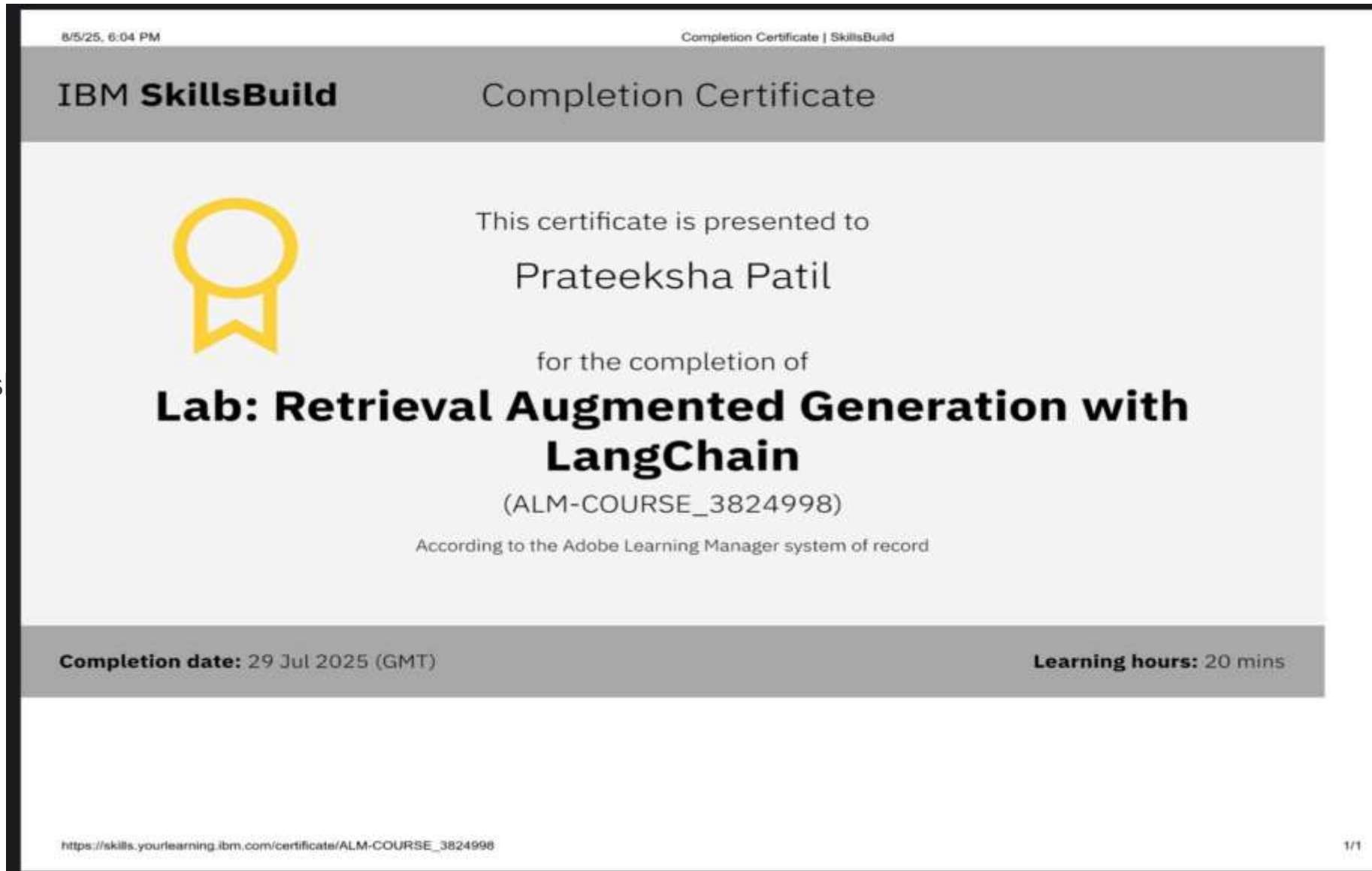
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- Screens





**THANK YOU**