
CAPSTONE PROJECT

COLLEGE-ADMISSION-AGENT

Presented By:

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OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

In the current digital landscape, students face challenges navigating college admission processes, including unclear eligibility criteria, varying fee structures, inconsistent deadlines, and fragmented information across websites. These issues lead to confusion, misinformation, and missed opportunities. There is a strong need for a centralized, intelligent system that simplifies and streamlines the admission experience.

PROPOSED SOLUTION

- The proposed system is a **College Admission Agent**, powered by **Retrieval-Augmented Generation (RAG)**, which:
- Understands student queries in natural language.
- Retrieves and summarizes admission policies, eligibility, course details, and fee structures from trusted sources.
- Offers accurate, real-time responses about deadlines, required documents, and procedures.
- Reduces manual inquiries and enhances applicant experience.

SYSTEM APPROACH

- **Platform:** IBM Cloud Lite
- **AI Model:** IBM Granite Foundation Model
- **Frameworks:** LangChain / Haystack for RAG pipeline
- **Storage:** Vector DB (e.g., Pinecone / Chroma) for document retrieval

ALGORITHM & DEPLOYMENT

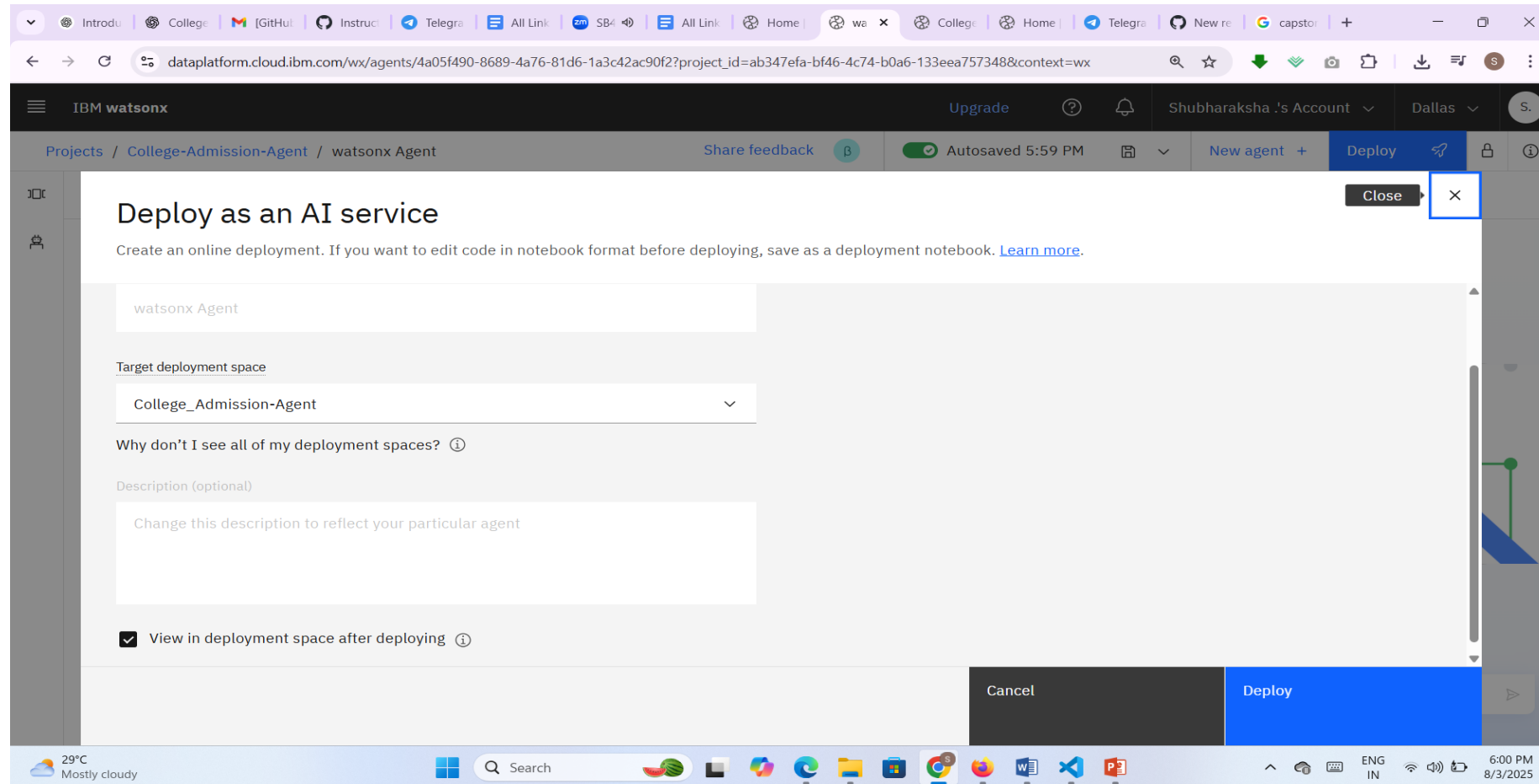
- **RAG-based Architecture:** Combines document retrieval with generative model output.
- **Steps:**
 1. Upload knowledge documents (PDFs, scraped HTML).
 2. Index data into a vector database.
 3. User inputs a query (e.g., “What is the fee for B.Tech at XYZ College?”).
 4. Retriever fetches relevant chunks.
 5. Generator (IBM Granite) provides context-aware, natural language response.
- **Deployment:** Hosted on IBM Cloud or locally with Docker.

RESULT

The screenshot shows the IBM watsonx dashboard. The left sidebar contains navigation links: Home, Data, Connectivity, Projects, Jobs, Deployment spaces, Resource hub, Administration, and Support. The main content area displays a welcome message for 'Shubharaksha' and a section titled 'Open in: College-Admission-Agent'. Below this, there are three cards: 'Chat and build prompts with foundation models' (with a 'Start chatting...' button), 'Build an AI agent to automate tasks' (with 'with Agent Lab' and 'with Tuning Studio' options), and 'Tune a foundation model with labeled data'. The bottom of the dashboard shows a grid of project thumbnails.

The screenshot shows the 'Build' interface for a 'watsonx Agent'. The top bar includes 'Share feedback', 'Autosaved 5:42 PM', 'New agent +', and 'Deploy'. The main area is divided into three sections: 'Added tools (5)', 'Model parameters', and 'Agent preview'.
The 'Added tools' section lists: Google search, DuckDuckGo search, Wikipedia search, and Document search - College_Admission_KnowledgeBase.
The 'Model parameters' section shows sliders for 'Presence penalty' (set to 0), 'Temperature' (set to 0), and 'Top P (nucleus sampling)' (set to 1). The 'Max tokens' is set to 2000.
The 'Agent preview' section shows a chat window with the message 'Welcome to watsonx Agent' and a description 'Change this description to reflect your particular agent'. Below the chat window is a 'Type something...' input field.

RESULTS



[illegible][illegible]

RESULTS

Can you list available course in RV engineering college



watsonx Agent 07:15 PM

RV College of Engineering, Bangalore, offers a wide range of undergraduate and postgraduate courses in engineering and technology. Here are some of the available B.Tech courses as per the latest information:

1. Computer Science and Engineering
2. Electronics and Communication Engineering
3. Mechanical Engineering
4. Civil Engineering
5. Electrical and Electronics Engineering
6. Information Science
7. Biomedical Engineering
8. Aerospace Engineering

Please note that the availability of courses can change, and it's always best to check the official RV College of Engineering website or contact their admission office for the most current list of courses and their respective eligibility criteria.

OUTPUTS

[Projects](#) / [College-Admission-Agent](#) / watsonx Agent

[Share feedback](#) β Autosaved 7:21 PM New agent + Deploy

Build

AI

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

<

up-to-date information on admission policies, eligibility criteria, fee structures, and important deadlines from trusted sources. Provide clear, specific, and accurate answers to the user's queries about the admission process.

Knowledge

Vector index

College_Admission_KnowledgeBase

Clear chat

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

Tools

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.

Agent preview

You: 07:20 PM

What is the total computer science fees at mite College?"

watsonx Agent 07:20 PM

The total fees for the B.E. Computer Science and Engineering course at MITE Engineering College for the academic year 2025-2026 is INR 85,000. This includes tuition fees and does not include hostel fees, which are approximately INR 60,000 per year. Please note that scholarships are available for meritorious and economically weaker students.

For more detailed information, you can refer to the college's official prospectus and admission FAQs provided.

► How did I get this answer?

Type something...

OUTPUTS

IBM watsonx

Upgrade ?

Shubharaksha.'s Account

Dallas

\$

Projects / College-Admission-Agent / watsonx Agent

Share feedback β Autosaved 7:22 PM New agent + Deploy

Build

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

Agent preview

Setup

Configuration

Framework Architecture

LangGraph ReAct

Instructions

Advanced configuration

You are a college admission agent. Take the user's preferences such as desired course, academic background, preferred college location, budget, and admission timeline. Retrieve up-to-date information on admission policies, eligibility criteria, fee structures, and important deadlines from trusted sources. Provide clear, specific, and accurate answers to the user's queries about the admission process.

Knowledge

Vector index

College_Admission_KnowledgeBase

Clear chat

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Tools

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► How did I get this answer?

You: 07:22 PM

What is the admission procedure for private universities?ll

watsonx Agent 07:22 PM

The admission procedure for private universities can vary depending on the specific institution and the course you're applying for. However, here's a general outline of the common steps:

1. **Eligibility Check:** Ensure you meet the minimum eligibility criteria set by the university, which often includes a certain percentage of marks in your qualifying examination.

2. **Application Form:** Fill out the application form, which is usually available online. You'll need to provide personal details, academic history, and other required information.

3. **Entrance Exam:** Many private universities require candidates to take an entrance exam. These exams test your aptitude and subject knowledge. Some universities may have their own entrance tests, while others accept scores from national-level tests like JEE (Main/Advanced) or CAT.

4. **Document Submission:** Submit the required documents, which typically include mark sheets, certificates, a passport-size photograph, and a non-refundable application fee.

5. **Counseling/Selection Process:** After the entrance exam results are declared, you may be called for a counseling session where you'll be allotted a college and course based on your rank and preferences.

6. **Seat Allocation:** Once you accept the allotted seat, you need to complete the admission formalities, including fee payment and document verification.

7. **Admission Letter:** After successful completion of all formalities, you'll receive an admission letter from the university.

Type something...

CONCLUSION

- The College Admission Agent successfully reduces friction in the application process, empowers students with accurate information, and ensures transparency. It minimizes the workload for admission offices and improves outreach to students from diverse backgrounds.

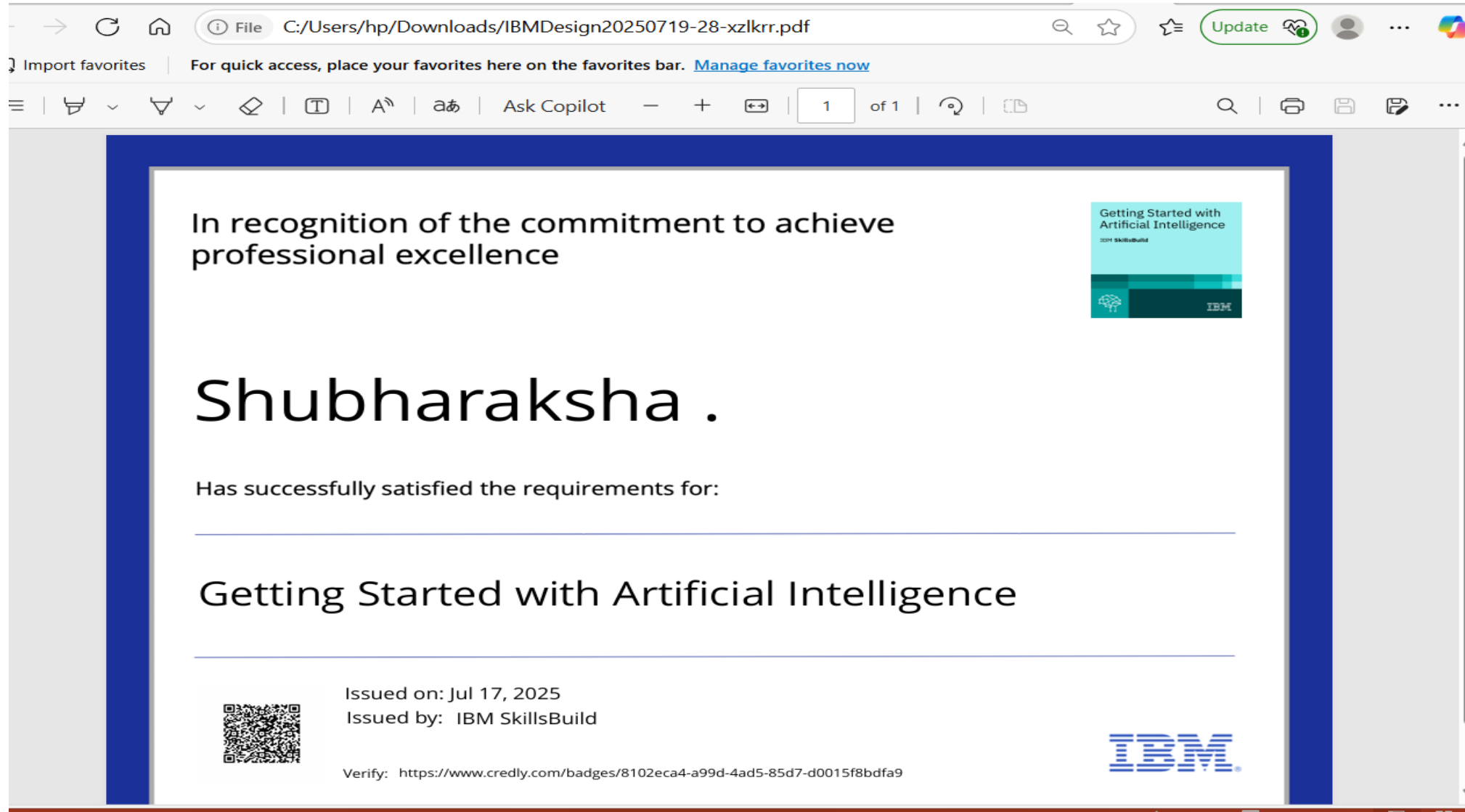
FUTURE SCOPE

- Add multilingual support (Hindi, Tamil, etc.)
- Connect with real-time APIs for live updates from universities
- Integrate chatbot into college websites
- Expand to include scholarship and hostel queries

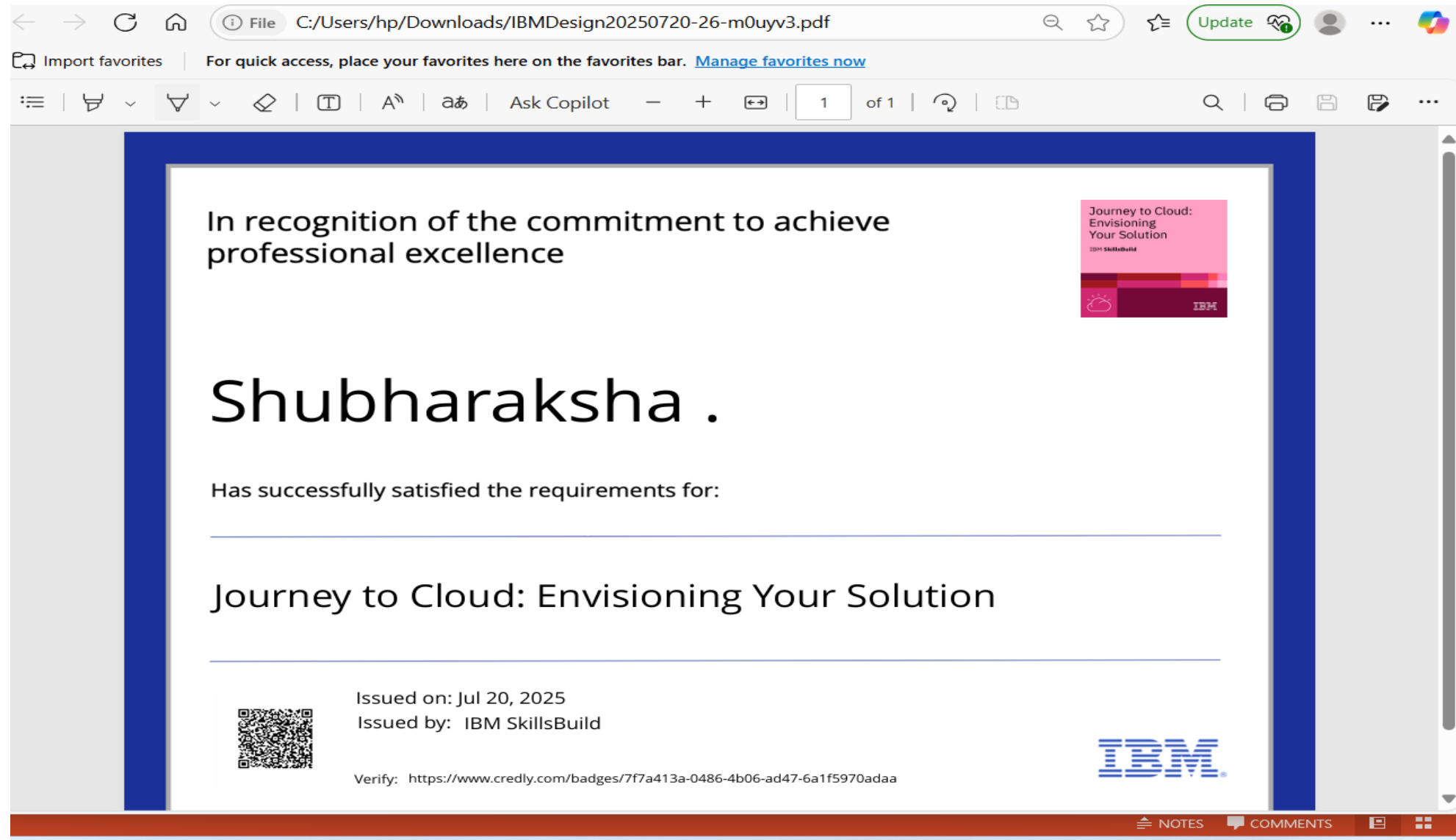
REFERENCES

- IBM SkillsBuild Labs & Granite documentation
- Government college admission portals
- Research on RAG and Agentic AI architecture
- Github link:https://github.com/shubha39/IBM_Cloud-Project

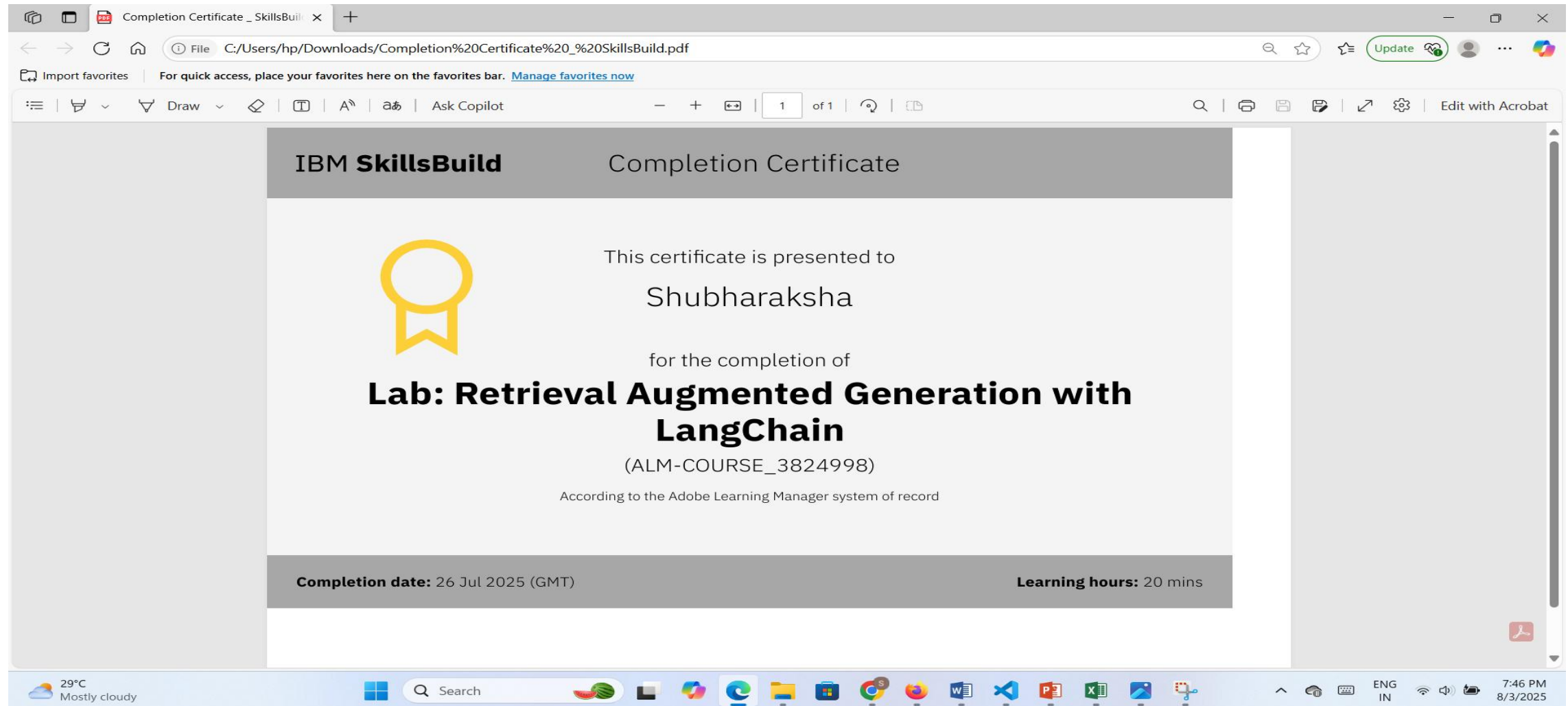
IBM CERTIFICATIONS



IBM CERTIFICATIONS



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THANK YOU