

CAPSTONE PROJECT

CAREER COUNSELLING COMPANION AGENT

Presented By:

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College Name & Department

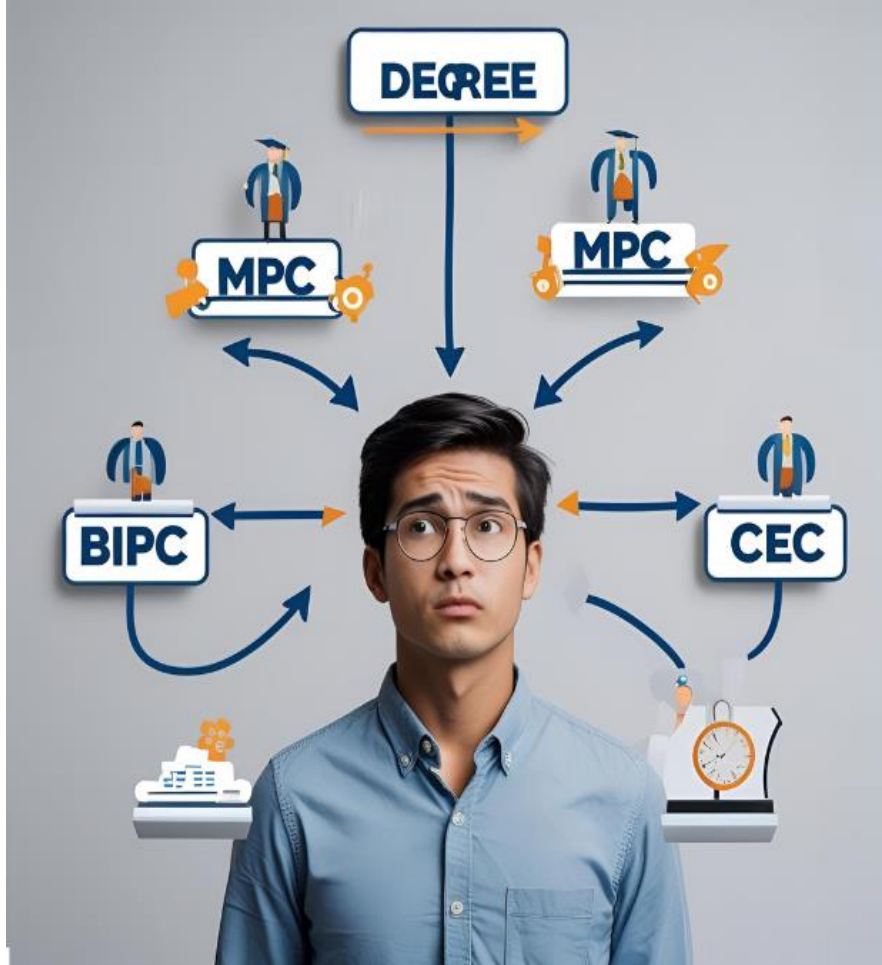
College Name : VAAGDEVI COLLEGE OF ENGINEERING

Department : CSE(AI&ML)

OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
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- Git-hub Link
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- IBM Certifications

PROBLEM STATEMENT



Many students find it hard to choose the right career path after school or college. They often don't know what they're good at, what jobs are in demand, or which courses will help them get there. The guidance they receive is often general, outdated, or not tailored to their individual strengths and goals.

Proposed Solution :

A smart AI Career Counseling Agent that:

- Learns about the student's interests, strengths, and academic performance
- Tracks current job trends, skills in demand, and future career opportunities
- Gives personalized advice on courses, colleges, and career paths

TECHNOLOGY USED



IBM cloud lite services



IBM Watsonx.ai



Agent Lab



Machine Learning Model



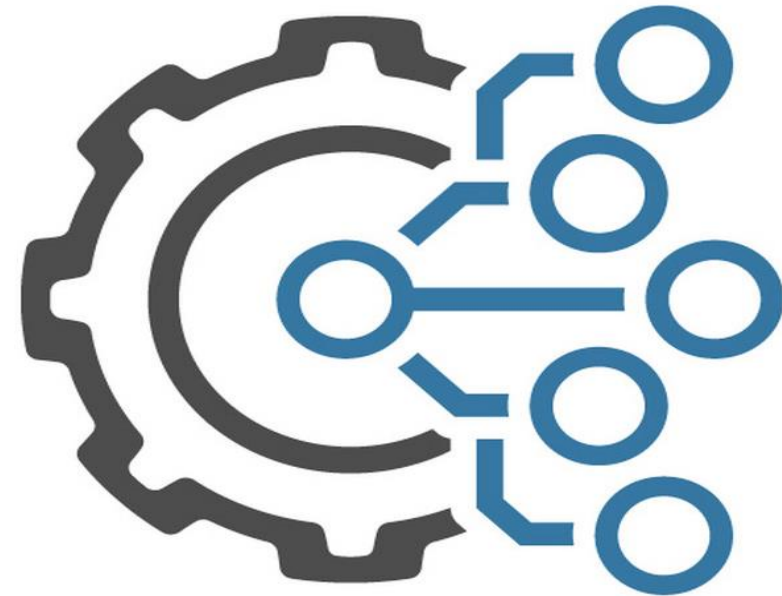
Lang chain / Lang Graph



IBM Granite model



IBM Cloud Object Storage



Technology

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio :
For training and deploying your AI models
- IBM Cloud Vector Database(Watsonx) :
To store and retrieve contextual knowledge (RAG)
- IBM Cloud Watsonx AI runtime :
To host and run our AI assistant in production
- IBM Cloud Agent Lab :
To configure and manage agent workflows
- IBM Granite foundation model :
For advanced LLM capabilities (NLP, reasoning, etc.)
- IBM Cloud Object Storage :
To store PDFs, course lists, career data, datasets, and user session logs



WOW FACTORS

This smart career counselling companion agent helps students **save time, gain clarity, and make confident career choices**. Whether you're unsure about what to do after 12th or exploring future paths, it gives you personalized, up-to-date guidance in a simple and friendly way.

Unique features:

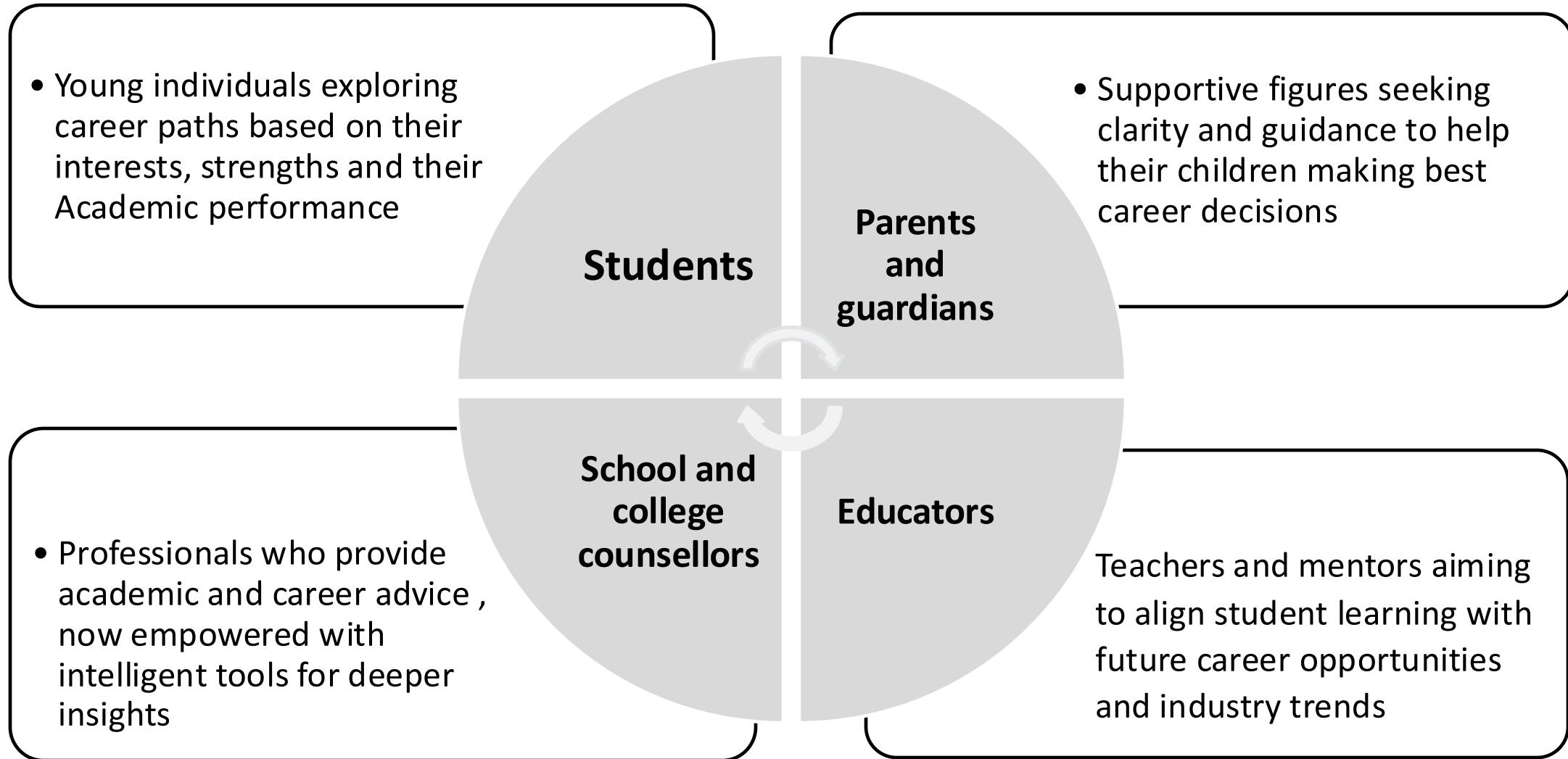
It listens to what you love- your favorite subjects, hobbies and strengths- and helps you find careers that truly suit you.

It guides you to the right courses and colleges, so you can start your journey with confidence

It keeps track of job market trends and in-demand skills, making sure you're always future-ready

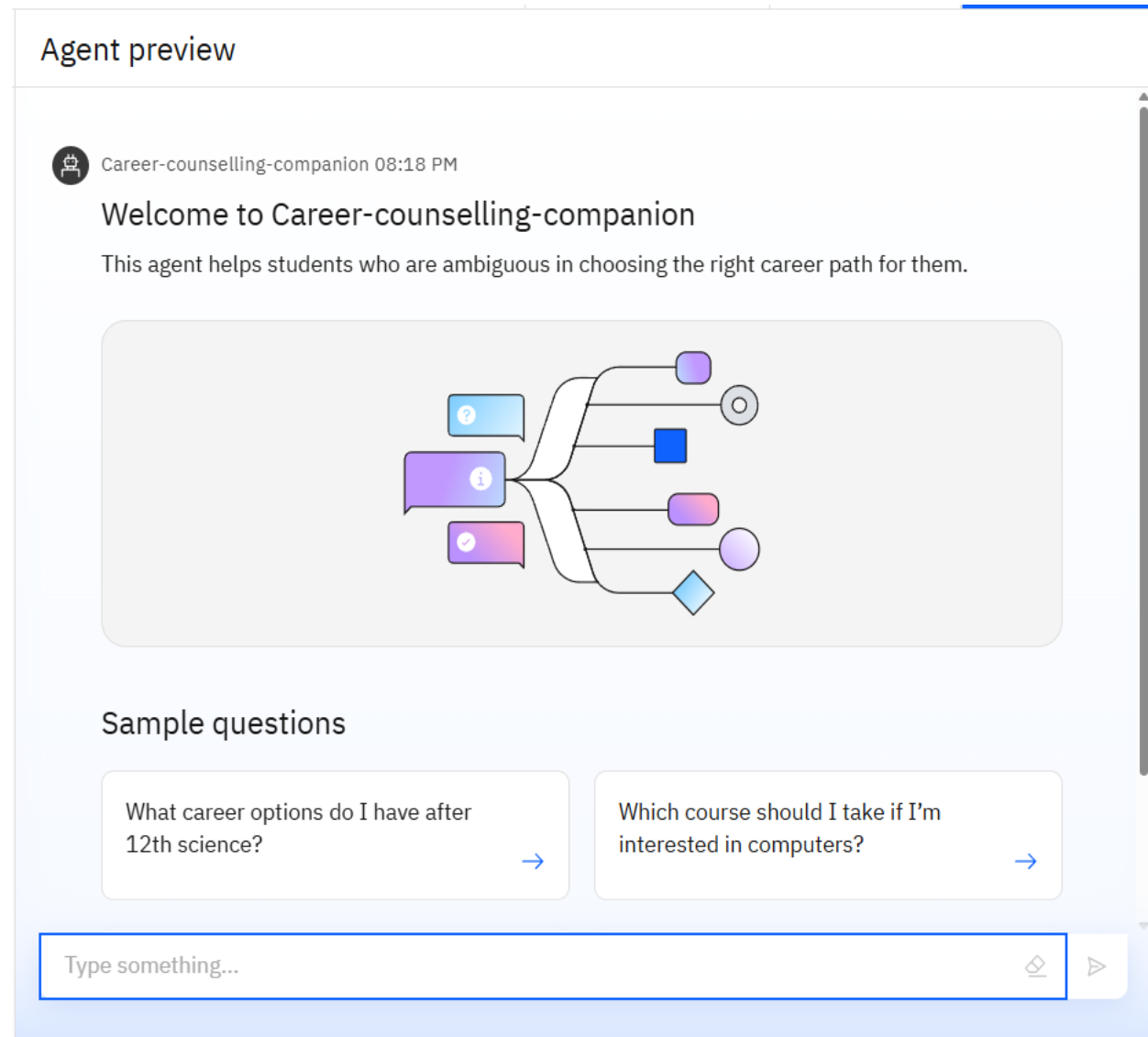
If you ever feel stuck it shows you the learning paths and it connects you with the right mentor and keeps move you forward

END USERS



RESULTS

- Welcome screen Displays the agent's introduction and sample questions.
- It showcases its user-friendly interface designed for student/user queries.



RESULTS

- The agent dynamically lists **STEM career paths** (e.g., Engineering, Medicine) with exam details (NEET/AIIMS).
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Agent preview



You: 08:19 PM

What career options do I have after 12th science?



Career-counselling-companion 08:19 PM

Hi, I am your Agentic Career Counselling Companion powered by Watsonx.ai. How can I assist you in planning your future-ready career path?

After completing your 12th grade in science, you have a wide range of career options. Here are some popular paths:

1. **Engineering:** This is a common choice for students with a science background. You could pursue specializations like Computer Science, Mechanical, Electronics, Civil, or Biotechnology. Each field has its own set of job opportunities and growth prospects.
2. **Medicine:** If you're interested in healthcare, you could consider studying Medicine, Dentistry, or other allied health sciences. Admission to these courses is highly competitive and usually requires clearing entrance exams like NEET or AIIMS.
3. **Data Science/Analytics:** With the rise of big data, careers in data science and analytics are in high demand. This field requires a strong foundation in mathematics and statistics.
4. **Environmental Science:** If you're passionate about sustainability and conservation, a career in environmental science could be fulfilling. This field involves studying the physical, chemical, and biological components of the environment.

Type something...



RESULTS

- Here the Agent Compares trending fields like Computer Science, Mechanical, and Electrical Engineering.
- Suggests aligning choices with interests and market demand.

Agent preview



You: 08:20 PM

If i choose engineering which domain is best for me



Career-counselling-companion 08:20 PM

Choosing an engineering domain depends on your interests, strengths, and the current job market trends. Here are some popular and promising engineering domains:

1. **Computer Science/Software Engineering:** This field is booming due to the digital revolution. If you have an interest in programming, problem-solving, and technology, this could be a great fit. Career opportunities range from web development to data science and artificial intelligence.
2. **Mechanical Engineering:** This is a versatile field with applications in various industries, including automotive, aerospace, energy, and manufacturing. If you're interested in designing, analyzing, and manufacturing mechanical systems, this could be a good choice.
3. **Electrical Engineering:** This domain deals with the study and application of electricity, electronics, and electromagnetism. With the rise of renewable energy and smart grids, electrical engineering is becoming increasingly relevant.
4. **Civil Engineering:** If you're interested in construction projects, infrastructure development, and urban planning, civil engineering could be for you. This field also offers opportunities in areas like environmental engineering and geotechnical engineering.

|Type something...



RESULTS

Deployed Carrer counselling AI Agent

Career-counselling-companion ✓ Deployed Online

API reference

Test

Evaluations

Preview



Career-counselling-companion 02:44 AM

Welcome to Career-counselling-companion

This agent helps students who are ambiguous in choosing the right career path for them.



Quick start samples

|type something...



- The above image shows the preview of the deployed career counselling companion agent.

CONCLUSION



Guides students toward well-matched career paths using their interests & strengths.



Reduces confusion and stress by simplifying decision-making with smart suggestions.



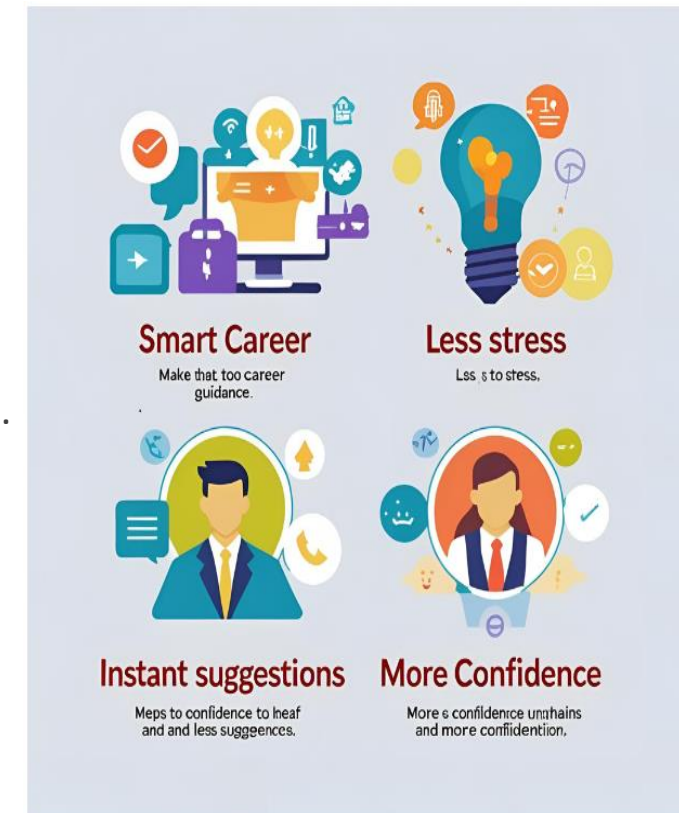
Automates course, college, and career recommendations using real-time market data.



Boosts students' confidence and readiness for the future with timely insights.



Continuously learns and adapts to provide smarter, more personalized suggestions



GIT-HUB LINK

Git hub link : <https://github.com/PothanaPardhu/Career-Counselling-Agent.git>

FUTURE SCOPE

- **Multilingual Career Guidance**

Support students in their native languages for better understanding and comfort.

- **Voice-Activated Career Assistant**

Enable hands-free interaction for accessible and intuitive guidance.

- **Real-Time Counselor Collaboration**

Allow students and counselors to interact simultaneously within the platform.

- **Personalized Career Roadmaps**

Generate step-by-step learning and development plans based on student profiles.

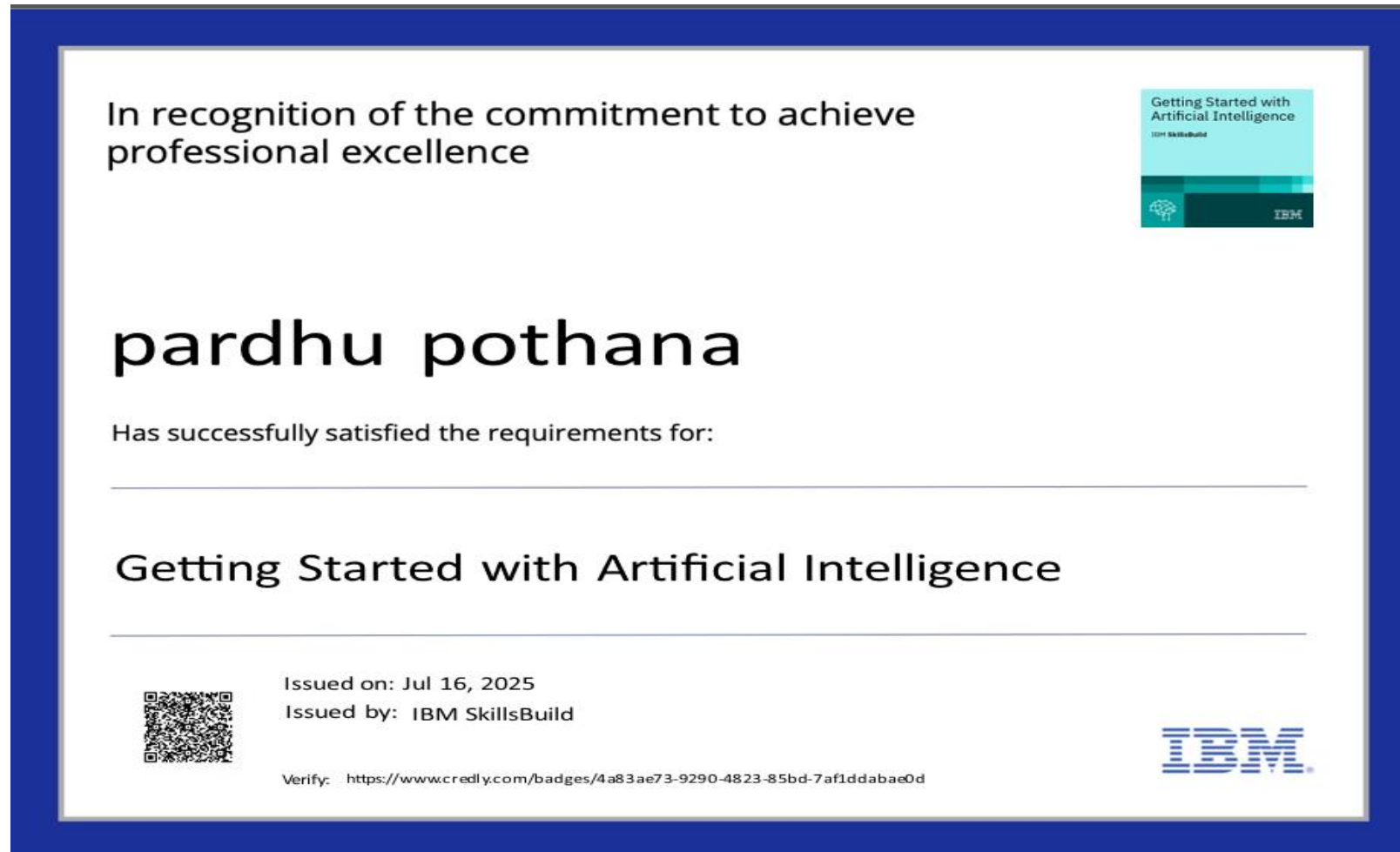
- **Integration with Learning Platforms**

Recommend and link to courses on Coursera, edX, IBM SkillsBuild, etc.



IBM CERTIFICATIONS

GETTING STARTED WITH ARTIFICIAL INTELLIGENCE (CREDLY CERTIFICATE)



IBM CERTIFICATIONS

JOURNEY TO CLOUD : ENVISIONING YOUR SOLUTION (CREDLY CERTIFICATE)



IBM CERTIFICATIONS

LAB : RAG WITH LANGCHAIN (IBM SKILLS BUILD)





THANK YOU