CAPSTONE PROJECT

Agentic Career Counselling Companion

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OUTLINE

Problem Statement

Technology used

Wow factor

End users

Result

Conclusion

Future scope

IBM Certifications

edunet
foundation

Problem Statement

Students often struggle to make informed career decisions due to fragmented access to guidance, limited self-awareness of their strengths and a constantly evolving job market. Traditional counseling methods are static, impersonal, and unable to scale, leading to poor decisions and career mismatches. Manually tracking student progress and matching it with labor market trends is inefficient and outdated.

Proposed Solution:
An **AI-powered Career Counseling Agent** that leverages real-time performance data, evolving student interests and dynamic job market trends to deliver personalized, adaptive career pathway recommendations. It continuously learns from user input, educational progress and external labor insights to suggest optimal roles, skills to acquire, courses to pursue, and even forecast job demand empowering students to make confident, future-ready career choices with minimal manual intervention.

Technology used

IBM cloud lite services

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

This agent will significantly reduce decision fatigue, enhance self-awareness, bridge the gap between education and employability, and empower students to take charge of their future with data-backed clarity and confidence.

Unique Features:

Dynamic Career Path Recommendations: Tailored suggestions based on evolving student interests, skills and goals.

Real-Time Labor Market Sync: Continuously maps student profiles to high-demand roles and future-proof industries.

Skill Gap Analysis: Identifies missing competencies and recommends exact courses, certifications or projects.

Adaptive Learning Engine: Continuously updates advice based on student progress, achievements and changing aspirations.

Explainable AI Feedback: Clearly justifies why a particular path is suggested, increasing trust and transparency.

Multimodal Interaction: Accepts inputs via text, voice or uploaded documents (e.g., resumes, report cards).

Motivational Insights: Offers goal-aligned encouragement and productivity nudges based on user persona.

Minimal Human Intervention: Scalable 24/7 available guidance without dependence on traditional counselors.

End users

Students:

High school and college students exploring future careers , final-year students seeking tailored job or higher education paths, career switchers needing guidance based on current skills

Educational Institutions

Schools, colleges, and universities aiming to offer AI-powered career guidance, career services departments looking to automate and personalize counseling, institutions integrating data-driven decision tools into student portals

Educators and Mentors

Teachers and academic advisors supporting students with actionable insights, mentors helping learners align academic choices with future opportunities

Workforce Development & Government Bodies

Organizations designing employment-ready programs, skill-building agencies aiming to reduce job mismatch, government initiatives for youth employment, vocational training

Results

Results

Agent preview

Agentic Career Counseling Companion 06:47 PM

To provide personalized career path suggestions, I need to know more about you. Could you please tell me:

1. Your name

2. Your age

3. Your current level of education (high school, college, university, etc.)

4. Your interests or hobbies

5. Any skills you have acquired so far (programming, languages, etc.)

6. Your career goals or what you hope to achieve in your career

7. Your location (city, country)

This information will help me give you tailored advice and suggestions for your future career path.

▶ How did I get this answer?

SS You: 06:50 PM

Your name: Sneha Your age:25 Your current level of education (high school, college, university, etc.): College Your interests: Programming Any skills you have acquired so far: SQL, Python, Power bi, EDA, Data modeling Your career goals or what you hope to achieve in your career: Join a MNC and keep learning and growing Your location (city, country): Kolkata, India

Type something...

Results

Agentic Career Counseling Companion 06:50 PM

Hello Sneha! It's great to hear that you're interested in programming and have already acquired skills in SQL, Python, Power BI, EDA, and data modeling.

Based on your background and interests, here are three suitable career paths for you:

1. **Data Scientist**: With your skills in programming, data modeling, and data analysis, you can pursue a career as a data scientist. You'll work with large datasets to identify trends, create predictive models, and inform business decisions.

2. **Business Intelligence Developer**: Your experience with Power BI and data modeling makes you a strong candidate for a business intelligence developer role. You'll design and implement data visualization tools to help organizations make data-driven decisions.

3. **Data Engineer**: As a data engineer, you'll work on designing, building, and maintaining large-scale data systems. Your skills in SQL, Python, and data modeling will serve you well in this role.

To further develop your skills and increase your chances of joining a multinational corporation (MNC), I recommend:

- Learning more about machine learning and deep learning

- Familiarizing yourself with cloud-based technologies like AWS or Azure

- Developing your communication and presentation skills to effectively convey complex data insights to non-technical stakeholders

Remember, the key to success in any career is continuous learning and growth. Stay curious, keep learning, and you'll be well on your way to achieving your goals!

Type something...

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Results

Deployed AI Agent

Deployment spaces / Carrer_Counselling_agent / Agentic Career Counseling Companion /

Agentic Career Counseling Companion ✓ Deployed Online
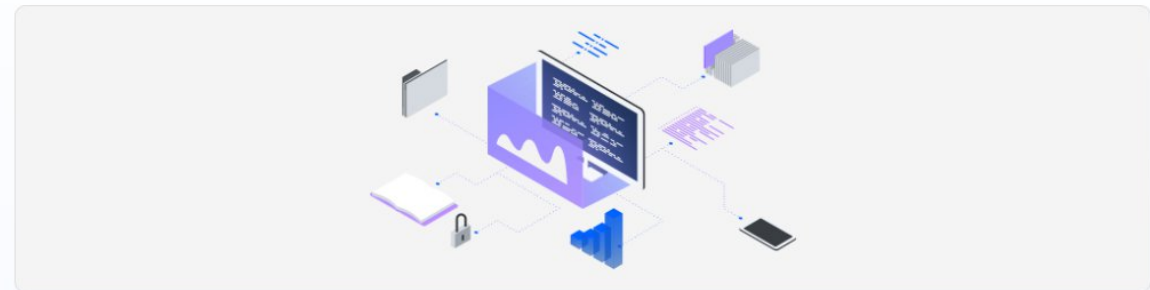
API reference   Test   **Preview**

Agentic Career Counseling Companion 07:05 PM

Welcome to Agentic Career Counseling Companion

Smart AI career guide offering personalized, real-time paths based on skills, goals, and trends.

Type something...

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Conclusion

The Agentic Career Counseling Companion is a powerful step forward in helping students make informed and personalized career decisions. By continuously tracking performance, interests, and job market trends, it provides clear, future-ready guidance tailored to each learner. This intelligent, scalable solution enhances student confidence, reduces dependency on manual counseling and supports institutions in delivering modern, data-driven career support. It's a smarter, more effective way to shape the future of education and employment.
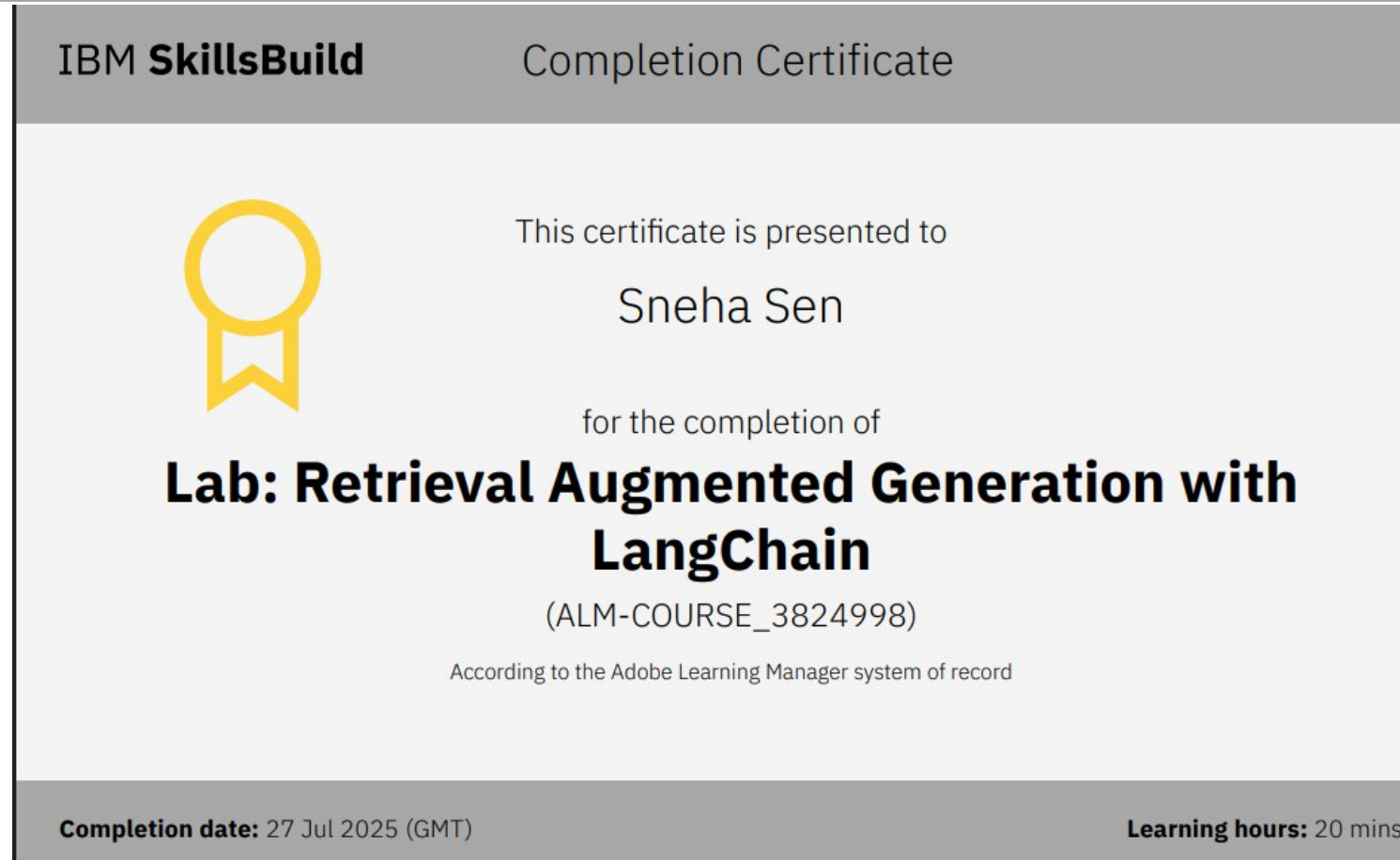
FUTURE SCOPE

- Multilingual Career Guidance Support
- Voice-Activated Career Counseling Assistant
- Real-Time Integration with Job and Education Portals
- Automated Internship and Job Matching
- AI-Driven Personality and Skill Assessments
- College and Course Recommendation Engine
- Peer and Mentor Matching for Career Growth
- Career Path Progress Tracking Dashboard
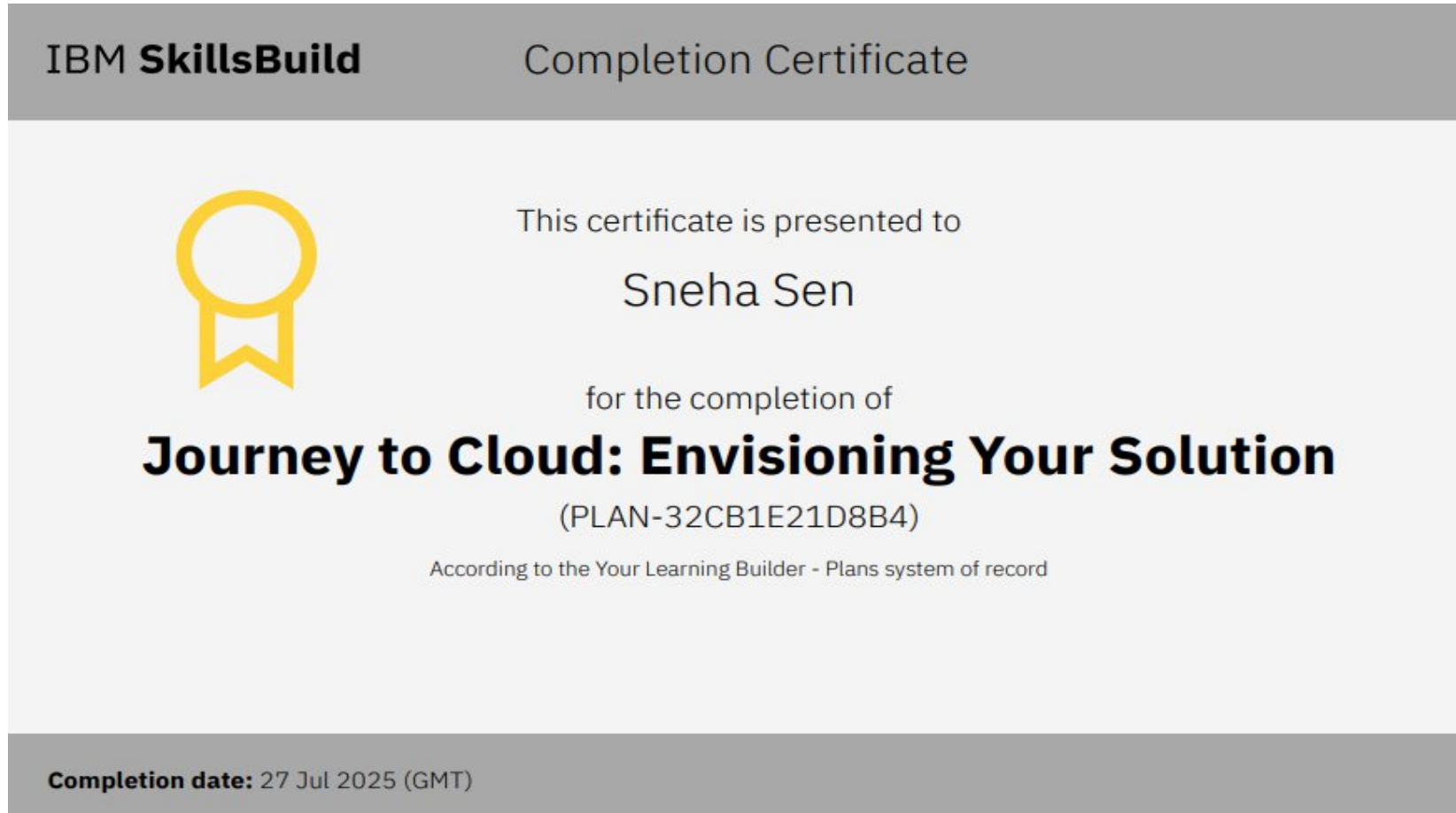
IBM Certifications

Screenshot/ credly certificate(getting started with AI)

Attach your RAG LAB certificate here

Screenshot of credly certificate(Journey to Cloud)

GitHub Link

https://github.com/sneha-senn9907/Agentic-Career-Counselling-Companion

THANK YOU