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# CAPSTONE PROJECT

## AGENTIC CAREER COUNSELING COMPANION

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# OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Future scope
- IBM-Cerifications
- Git-Hub Link

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## PROBLEM STATEMENT

Students often struggle to make informed career decisions due to fragmented access to guidance, limited self-awareness of academic strengths, and rapidly evolving industry landscapes.

Traditional counseling methods lack personalization and scalability, leading to missed opportunities and career mismatches.

The challenge is to develop an intelligent, autonomous agent that continuously monitors student performance, evolving interests, and real-time labor market trends to deliver tailored career pathway suggestions. This would empower students to make confident, future-ready decisions with minimal dependency on manual intervention.

## TECHNOLOGY USED

IBM cloud lite services

Large Language Model (LLM)

IBM Granite model

Data Feeds (for dynamic responses)

Custom Tools

Knowledge Uploads

## IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Granite foundation model
- Granite-3-3-8b-instruct
- llama-3-3-70b-instruct

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## WOW FACTORS

The **Agentic Career Counseling Companion** is designed to dramatically reduce the time and confusion students face when exploring career paths.

It empowers them to make confident, future-ready decisions by aligning their academic strengths, personal interests, and real-time job market trends.

This intelligent agent continuously monitors student performance and evolving goals, offering dynamic and personalized career suggestions.

Key features include real-time labor market integration, interest-to-career mapping, skill gap analysis, and targeted learning recommendations.

The agent also supports autonomous, natural conversations, enabling students to receive guidance without manual intervention.

By providing 24/7 access to tailored advice, it scales the impact of career counseling while fostering self-awareness, long-term planning, and alignment with emerging opportunities.

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## END USERS

- Students
- Educators And Counsellors
- Institutional End Users
- Corporate & Workforce Development

# PROCESS

## Build

AI

Model: llama-3-3-70b-instruct ▼



### Setup

Name

Agentic Career Counseling Companion

## Agent preview



Agentic Career Counseling Companion 06:00 PM

Welcome to Agentic Career Counseling Companion

Change this description to reflect your particular agent

## Description

100/100

An AI-powered agent that guides students with personalized career paths based on their performance,



# PROCESS

Instructions

[Advanced configuration](#)

Respond warmly to greetings like "Hi", "Hello", or "Hey" and offer help right away. Example:

Hi there! I'm here to help you explore your career options. Would you like to tell me about your interests or academic background?

Knowledge

Tools

Add a tool

Create custom tool

Added tools (4)

**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.

**Weather**



Retrieve the weather of a city.

# PROCESS

## Agentic Career Counseling Companion



Overview   Assets   **Deployments**   Jobs   Manage

🔍 Search ↺

Name	Type	Status	Asset	Asset type	Tags	Last modified	↓	
 Agentic Career Counseling Companion	Online	✔ Deployed	<a href="#">Agentic Career Counseling Companion</a>	Ai service	<span>wx-agent</span> 	3 minutes ago Nikhil Salunke (You)		⋮

# RESULTS

## Deployed AI Agent


 Upgrade ?  Nikhil Salunke's Account Dallas NS

Deployment spaces / Agentic Career Counseling Companion / Agentic Career Counseling Companion


Agentic Career Counseling Companion Deployed Online

API reference Test **Preview**

New chat +

 You 07:21 PM

I'm good at math and science — what careers should I consider?

 Agentic Career Counseling Companion 07:21 PM

That's great! With a knack for math and science, there are several exciting career paths you might consider. Here are a few suggestions:

- Engineer:** This is a broad field that includes various specializations like civil, mechanical, electrical, and chemical engineering. Engineers apply principles of math and science to design, develop, and test products and systems.
- Data Scientist:** This role involves using statistical methods and machine learning to extract insights from large datasets. It's a growing field that combines math, computer science, and domain expertise.
- Actuary:** Actuaries use math and statistics to assess risk and manage uncertainty in fields like finance, insurance, and business.
- Physician or Healthcare Professional:** If you're interested in a medical career, roles like doctor, dentist, or pharmacist require strong foundations in biology and chemistry, along with analytical skills.
- Research Scientist:** Research scientists in fields like biotechnology, physics, or environmental science use scientific methods to expand knowledge in their field.
- Financial Analyst:** This role involves examining financial data, creating forecasts, and advising on investment strategies. It requires strong quantitative skills.

Agentic Career Counseling Companion

✔ Deployed

Online

API reference

Test

Preview

New chat +

What skills do I need for a career in [e.g., AI, law, healthcare]?



Agentic Career Counseling Companion 07:23 PM

Sure, let's take AI as an example. A career in Artificial Intelligence (AI) typically requires a blend of technical and soft skills:

Technical Skills:

- Programming:** Proficiency in languages such as Python, R, or Java is essential.
- Mathematics and Statistics:** A strong foundation in areas like calculus, linear algebra, probability, and statistics is crucial for understanding and developing AI algorithms.
- Machine Learning:** Familiarity with machine learning concepts and techniques is vital.
- Data Structures and Algorithms:** Understanding how to organize and process data efficiently is important.
- Deep Learning Frameworks:** Experience with frameworks like TensorFlow or PyTorch can be beneficial.

Soft Skills:

- Problem-Solving:** AI often involves tackling complex problems, so strong analytical and problem-solving skills are necessary.
- Critical Thinking:** The ability to think critically and creatively to design and implement AI solutions.
- Communication:** Being able to explain complex concepts to non-technical stakeholders is important.
- Continuous Learning:** The field of AI is rapidly evolving, so a willingness to keep learning new technologies and methodologies is key.

For a career in law, you might need strong research, analytical, and communication skills. In healthcare, a combination of empathy, communication skills, and subject matter knowledge (biology, chemistry, etc.) would be important.

# CONCLUSION

- In conclusion, the Agentic Career Counseling Companion represents a transformative step toward democratizing access to personalized, data-driven career guidance.
- By intelligently combining academic insights, evolving student interests, and real-time labor market trends, the agent empowers users to make confident, informed decisions about their futures.
- Its autonomous, scalable, and always-available design makes it a powerful tool not only for students but also for educators, institutions, and workforce development programs.
- This solution has the potential to bridge the gap between education and employment, fostering a generation of future-ready individuals equipped to thrive in a rapidly changing world.

# FUTURE SCOPE

- The future scope of the Agentic Career Counseling Companion is vast and impactful. In the coming years, the agent can evolve into a fully adaptive ecosystem that not only offers real-time guidance but also integrates seamlessly with learning management systems, academic records, and industry certifications.
- With the incorporation of AI-driven emotional intelligence and behavioral analytics, the agent could better understand student motivation, stress levels, and engagement to provide even more empathetic support.
- Future iterations may support multilingual interaction, regional career trends, and global job market insights—making the agent accessible and relevant to a diverse population.
- Moreover, partnerships with educational institutions, online course providers, and employers could enable end-to-end career readiness pipelines, from education to employment.

# IBM CERTIFICATIONS



# CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Nikhil Salunke

Has successfully satisfied the requirements for:

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### Journey to Cloud: Envisioning Your Solution

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Issued on: Jul 17, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/7bf5fb20-bc76-407f-a1a0-7140890660d5>





# RAG LAB CERTIFICATE

IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Nikhil Salunke

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 17 Jul 2025 (GMT)

**Learning hours:** 20 mins

## GITHUB LINK

- Git hub link : [Nikhil-salunke-eng/Agentic-Career-Counseling-Companion: Edunet Foundation IBM SkillsBuild](https://github.com/Nikhil-salunke-eng/Agentic-Career-Counseling-Companion)



**THANK YOU**