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# CAPSTONE PROJECT

## CAREER BOT

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## OUTLINE

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

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# PROBLEM STATEMENT

- Students often struggle with choosing a suitable career path, understanding skill requirements, and navigating higher education opportunities.  
Manually researching job roles, certifications, and industry trends is overwhelming and inefficient.
- **Proposed Solution:**  
An Agentic Career Counseling Bot (CareerBot) built using IBM Cloud Agentic AI to provide personalized, India-focused guidance on career options, skills, learning paths, and emerging industries. It uses AI-driven insights from trusted sources and vector-trained documents.

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## TECHNOLOGY USED

- ❑ IBM cloud lite services
- ❑ Natural Language Processing (NLP)
- ❑ Retrieval Augmented Generation (RAG)
- ❑ IBM Granite model

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## IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

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## WOW FACTORS

This agent helps students explore the right career paths, develop essential skills, and stay future-ready—reducing confusion, saving time, and empowering learners with actionable guidance tailored to their background, goals, and the Indian education system.

Unique features:

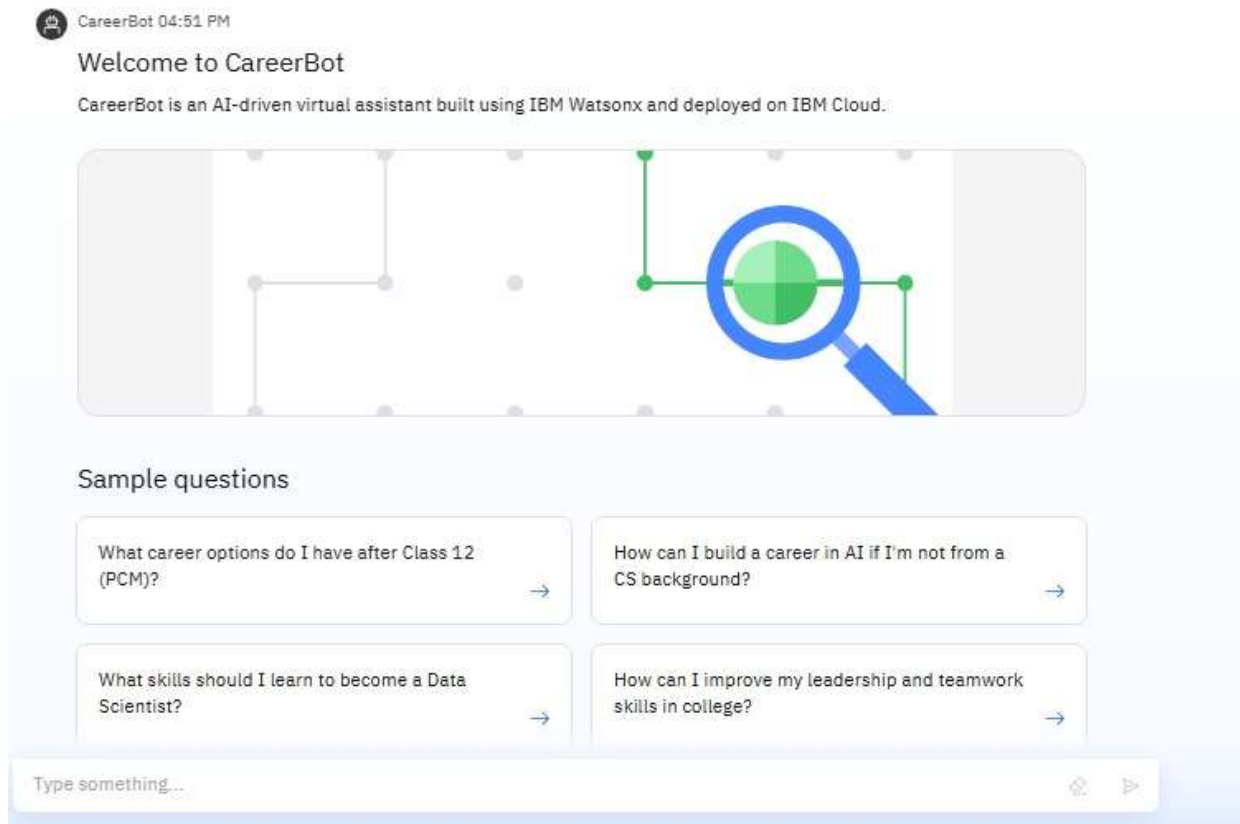
- ❑ Personalized career paths tailored to Indian students
- ❑ Works for all streams: PCM, Commerce, Arts
- ❑ Suggests skills, certifications, and interview prep tips
- ❑ Highlights green-tech, AI, and other emerging domains
- ❑ Vector-trained on real government career guides and roadmaps
- ❑ Provides context-aware answers with high precision
- ❑ Suggested learning paths, soft skills, and trending jobs.

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# END USERS

- High school students (Class 11–12)
- Undergraduate college students (all streams)
- Career counselors and coaching centers
- Placement cells in colleges
- Upskilling-focused platforms or NGOs

# RESULTS





## RESULTS



You 08:15 PM

I am a 3rd year btech ce student from india and i want to know how to learn machine learning knowing ik python



CareerBot 08:15 PM


To learn machine learning with Python, you can start by taking online courses or certification programs that focus on machine learning and Python programming. Here are some popular options:

1. **Coursera - Machine Learning by Andrew Ng:** This course is a great introduction to machine learning and covers the basics of supervised and unsupervised learning, linear regression, and neural networks.
2. **edX - Machine Learning with Python:** This course covers the basics of machine learning with Python and includes topics such as data preprocessing, feature engineering, and model evaluation.
3. **Udemy - Machine Learning with Python:** This course covers a wide range of topics in machine learning, including supervised and unsupervised learning, neural networks, and deep learning.
4. **Fast.ai - Practical Deep Learning for Coders:** This course focuses on practical deep learning techniques and includes topics such as convolutional neural networks, recurrent neural networks, and transfer learning.
5. **DataCamp - Machine Learning with Python:** This course covers the basics of machine learning with Python and

# RESULTS

**R** You: 04:52 PM

How can I build a career in AI if I'm not from a CS background?

 CareerBot 04:52 PM

To build a career in AI without a CS background, consider the following steps:

1. Develop problem-solving, reasoning, and analytical thinking through coursework.
2. Learn in-demand tools and languages, join certification platforms, and use GitHub or Google Drive to organize your project portfolio.
3. Build a personal brand by creating a strong LinkedIn profile, posting about projects, learnings, internships, and creating a digital resume and adding a link to your portfolio.
4. Gain practical experience by applying for internships, contributing to open-source, and doing academic and personal projects that solve real problems.
5. Develop soft skills such as collaboration, teamwork, conflict resolution, adaptability, and emotional intelligence.
6. Prepare for competitive exams or higher studies by preparing early for exams like clear verbal explanations, active listening, and practice presenting complex ideas simply.

|Type something...



# RESULTS

## Deployed AI Agent

CareerBot ✓ Deployed Online

API reference

Test

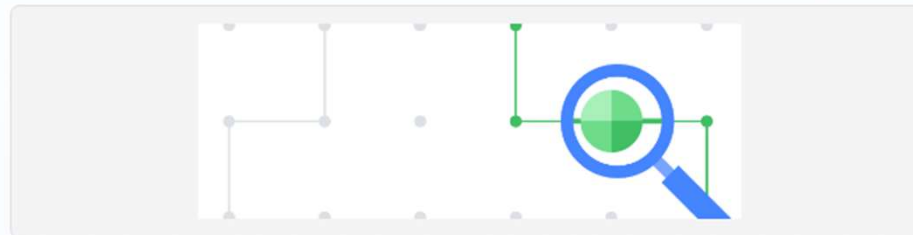
Preview



CareerBot 04:56 PM

Welcome to CareerBot

CareerBot is an AI-driven virtual assistant built using IBM Watsonx and deployed on IBM Cloud.



Quick start samples

What career options do I have after Class 12 (PCM)?

How can I build a career in AI if I'm not from a CS

Type something...



Deployment spaces /

CareerBot

Overview

Assets

Deployments

Jobs

Manage

Search

Name	Type	Status	Asset	Asset type	Tags
CareerBot	Online	✓ Deployed	CareerBot	AI service	wx-agent

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# CONCLUSION

- The agent provides personalized career guidance, answers education-related queries, and recommends skills and certifications based on user input.
- It saves time by automating career research, skill-matching, and roadmap generation.
- CareerBot enhances clarity, confidence, and future-readiness for students, bridging the gap between aspiration and action.

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## FUTURE SCOPE

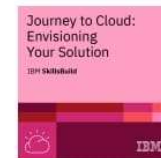
- Multilingual support for Hindi and regional languages
- Integration with resume builders and college portals
- Add a "skill gap checker" and resume matcher
- Export answers as PDFs for counselors
- Add real-time job market trends via API integration

# IBM CERTIFICATIONS



# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



Rishabh Ahuja

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 19, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/5b64d820-7a93-4834-b596-ad896fcc09e5>



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Rishabh Ahuja

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 19 Jul 2025 (GMT)

**Learning hours:** 20 mins



## GITHUB LINK

<https://github.com/rishabhahuja12/careerbot>

A screenshot of a GitHub repository's README file. The header shows a book icon and the word 'README' on the left, and a pencil icon and a hamburger menu icon on the right. The main title is 'CareerBot: Agentic AI Career Counseling for IBM SkillsBuild Internship 2025'. Below the title, there are two paragraphs of text. The first paragraph describes CareerBot as a smart, document-powered AI agent designed for Indian students, built using IBM Watsonx.ai, Granite LLM, and Vector Indexing (RAG). The second paragraph states that the project was developed as part of the IBM SkillsBuild for Academia Internship 2025, showcasing prompt engineering, agentic orchestration, and no-code deployment on IBM Cloud.

📖 README

# CareerBot: Agentic AI Career Counseling for IBM SkillsBuild Internship 2025

CareerBot is a smart, document-powered AI agent designed to provide personalized career counseling to Indian students. Built using **IBM Watsonx.ai**, **Granite LLM**, and **Vector Indexing (RAG)**, it answers career-related queries grounded in curated documents uploaded by the developer.

This project was developed as part of the **IBM SkillsBuild for Academia Internship 2025**, showcasing prompt engineering, agentic orchestration, and no-code deployment on IBM Cloud.

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**THANK YOU**