

# IBM AICTE PROJECT

## AI CAREER COUNSELOR RURAL YOUTH

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# OUTLINE

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# PROBLEM STATEMENT

In rural areas of India and other developing regions, many students and young adults struggle to make informed career choices due to limited access to professional guidance, poor digital literacy, and a lack of awareness about diverse career opportunities, skill development programs, and government initiatives.

## Problem:

Rural youth face **barriers in accessing career counseling** services, leading to misinformed decisions, unemployment, or underemployment. Existing career guidance resources are either not tailored to their needs or are inaccessible due to language, location, or technology barriers.

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# TECHNOLOGY USED

IBM cloud lite services

IBM Watson Assistant

IBM Cloud

Language Translator

IBM Granite model

Testing Tools

# ALGORITHM

## 1. Natural Language Processing (NLP):

- Used by **IBM Watson Assistant** to understand and respond to user queries
- Processes **user inputs in regional languages** (via Language Translator)
- Extracts **intents** (e.g., "I want a job") and **entities** (e.g., "B.Tech", "Skill India")

## 2. Rule-Based Dialog Management:

- Predefined **dialog flows** guide the user through structured conversations
- Helps users choose education level, interests, and get career suggestions

## 3. Decision Tree Logic (*used inside the dialog*):

- Based on user responses, follows a **branching logic** to recommend paths
- Example:
  - If 10th passed → Suggest diploma + vocational courses
  - If Graduate → Suggest job portals, competitive exams

# IBM CLOUD SERVICES USED

- Watson Assistant
- Watson Language Translator
- IBM Cloud Functions
- IIBM Cloudant
- IBM Object Storage
- IBM Cloud Monitoring

# WOW FACTORS

## 1. Multilingual Support

- Supports **regional languages** like Telugu, Hindi, etc.
- Makes career guidance accessible to rural youth who are not fluent in English

## 2. 24/7 Availability

- Provides **instant career guidance anytime, anywhere**
- No need for physical appointments or internet-savvy users

## 3. Personalized Recommendations

- Suggests careers, courses, and training based on **user inputs (education, interests, skills)**
- Feels like talking to a real counselor

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## END USERS

- Rural Students (Class 10th, 12th, and Graduates) Research Institutions and Universities
- Parents and Guardians
- Unemployed/Underemployed Youth
- School Teachers and Village Educators



# OUTPUT -1

The screenshot displays the IBM Watson Assistant interface for a chatbot named "career". The interface is divided into three main sections: a left sidebar for the workflow, a central editor, and a right preview pane.

**Workflow (Left Sidebar):**

- Step 1: "Continue to next step"
- Step 2: "1 is Defined", "welcome name", "Continue to next step"
- Step 3: "choose the carrer choices here", "How do I bal...", "what steps c...", "+ 3", "Continue to next step"
- Step 4: "This step has no content", "Continue to next step", "New step +"

**Editor (Center):**

- Is taken: without conditions
- Set variable values: fx
- Assistant says: "For example: What size do you want to order?"
- Define customer response: "Define customer response"
- And then: "Continue to next step"

**Preview (Right):**

- welcomeam mu
- choose the carrer choices here
- Select an option
- How do I balance passion Vs salar...
- what steps can i take now to prepa...
- How do I know What kind of work ...
- How do I know What kind of work Environment suits my personality
- Are additional courses important f...
- Type something...

The interface also includes a top navigation bar with "IBM watsonx Assistant Lite", "Upgrade", and "Learning resources". The bottom status bar shows the USD/EUR exchange rate, search bar, and system clock (12:00 PM 8/3/2025).

# OUTPUT-2

The screenshot displays the IBM Watson Assistant Lite interface for a career counseling workflow. The browser address bar shows the URL: <https://eu-gb.assistant.watson.cloud.ibm.com/crm%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F2e4f43545332478c8295a6a79fb...>

The interface includes a top navigation bar with "IBM watsonx Assistant Lite", an "Upgrade" button, and a dropdown menu for "career counselo...". On the right, there are links for "Learning resources", a help icon, and a user profile icon.

The main workspace is divided into three sections:

- Left Panel (Steps):** A list of steps in the workflow. Step 3 is highlighted with a green box and contains the text "What type of companies are better?". Step 6 contains the text "which filed or Industry are you Intrested In?". Step 7 contains the text "Are additional course..." and "Do you want course suggestions that are recognized by top companies?". Step 8 is highlighted with a blue box and contains the text "This step has no content".
- Center Panel (Editor):** The "Editor" tab is active. It shows the current step's configuration. The "Is taken" condition is set to "without conditions". The "Assistant says" section contains the text "For example: Please select from the following options:". The "And then" section contains the action "Continue to next step".
- Right Panel (Preview):** The "Preview" tab is active. It shows a simulated conversation. The first message is "choose the carrer choices here". The second message is "Are additional courses important ...". The third message is "You 12:11 PM". The fourth message is "Are additional courses important for standing out In my field". The fifth message is "12:11 PM". The sixth message is "Do you want course suggestions that are recognized by top companies?". The seventh message is "There are no additional steps for this action. Add a new step or end the action.".

The bottom of the interface shows a Windows taskbar with the date and time "12:11 PM 8/3/2025" and the temperature "87°F Haze".

# OUTPUT-3

The screenshot displays the IBM watsonx Assistant interface within a web browser. The browser's address bar shows the URL: <https://eu-gb.assistant.watson.cloud.ibm.com/crn%3Av1%3Abluemix%3Apublic%3Aconversation%3Aeu-gb%3Aa%2F2e4f43545332478c8295a6a79fb...>. The interface includes a top navigation bar with 'IBM watsonx Assistant Lite', an 'Upgrade' button, a dropdown menu for 'career counselo...', and a 'Learning resources' link. Below this is a 'Preview assistant' section with buttons for 'Copy link to share', 'Change layout', 'Change background', and 'Customize web chat'. The main area features a large background image of a signpost with signs for 'ADVICE', 'HE', and 'SUP'. A chat window titled 'career counsler' is open on the right, showing a conversation history. The chat history includes a user message: 'What type of companies are better ?' (timestamped 12:29 PM) and an assistant response: 'which filed or Industry are you Intrested In?' (timestamped 12:29 PM). The chat window also has a 'Type something...' input field and a 'Built with IBM watsonx' footer. The bottom of the screen shows a Windows taskbar with various application icons, a search bar, and system tray information including the date and time (12:29 PM 8/3/2025).

IBM watsonx Assistant Lite Upgrade career counselo... Learning resources

Preview assistant Copy link to share Change layout Change background Customize web chat

career counsler

What type of companies are better ?

You 12:29 PM

What type of companies are better ?

12:29 PM

which filed or Industry are you Intrested In?

Type something...

Built with IBM watsonx

USD/JPY -2.24%

Search

ENG IN 12:29 PM 8/3/2025

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## CONCLUSION

The **AI-based Career Counselor** for rural youth is a powerful initiative that bridges the gap between **opportunity and awareness**. By leveraging **IBM Cloud services** like Watson Assistant and Language Translator, the project offers **accessible, multilingual, and personalized career guidance** to students and job seekers in remote areas.

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# FUTURE SCOPE

- Voice-Based Interaction
- Mobile App Integration
- AI-Based Career Prediction
- . Integration with Government Portals
- Real-Time Counsellor Support

## IBM CERTIFICATES:





This certificate is presented to  
**KURA Sai Sankeerthana**

for the completion of  
**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

[https://GitHub.com/Kurasaisankeerthana/Career\\_Counselor](https://GitHub.com/Kurasaisankeerthana/Career_Counselor)



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## GITHUB LINK

- <https://GitHub.com/Kurasaisankeerthana>



**THANK YOU**