C951 TASK1

CHATBOT

TRAYVONIOUS PENDLETON

STUDENT ID# 011205284

Part A

My chatbot is designed to recommend five computing career paths: Software Engineering, Cybersecurity, Data Analysis, IT Project Management, and Systems Administration. It interacts with students through simple questions that assess their interests and preferences, guiding them toward suitable career paths. The chatbot provides career-specific resources through links, helping students explore each role more.

Part B

The chatbot recommends the following five job types, all of which require an undergraduate degree in computer science:

1. **Software Engineer**
2. **Cybersecurity Specialist**
3. **Data Analyst**
4. **IT Project Manager**
5. **Systems Administrator**

These job recommendations are based on the student's interest in programming, data, or project management.

Part C

<?xml version="1.0" encoding="UTF-8"?>

<aiml version="2.0">

<!-- Greeting -->

<category>

<pattern>HELLO</pattern>

<template>Hello! I can help you find a computing career based on your strengths. Which area are you most interested in? Programming, Cybersecurity, Data Analysis, Project Management, or Systems Administration?</template>

</category>

<!-- Programming (Software Engineering) Path -->

<category>

<pattern>PROGRAMMING</pattern>

<template>Software Engineering could be a great fit for you! Would you like to know more about this career? Please respond with YES PROGRAMMING or NO PROGRAMMING.</template>

</category>

<category>

<pattern>YES PROGRAMMING</pattern>

<template>Software Engineering is a career focused on designing, developing, and maintaining software systems. You can learn more here: <a href="https://bootcamp.cvn.columbia.edu/blog/how-to-become-software-engineer-from-scratch/">Software Engineering Career Information</a>. Would you like to explore other career options too?</template>

</category>

<category>

<pattern>NO PROGRAMMING</pattern>

<template>That's great! Here's more information: <a href="https://bootcamp.cvn.columbia.edu/blog/how-to-become-software-engineer-from-scratch/">Software Engineering Career Guide</a>. Good luck with your career search!</template>

</category>

<!-- Cybersecurity Path -->

<category>

<pattern>CYBERSECURITY</pattern>

<template>Cybersecurity is all about protecting systems from cyber threats. Would you like more information on how to become a Cybersecurity Specialist? Please respond with YES CYBERSECURITY or NO CYBERSECURITY.</template>

</category>

<category>

<pattern>YES CYBERSECURITY</pattern>

<template>Cybersecurity Specialists focus on protecting systems, networks, and data from cyber attacks. Learn more here: <a href="https://www.edx.org/become/how-to-become-a-cybersecurity-analyst">Cybersecurity Career Information</a>. Would you like to explore other career options as well?</template>

</category>

<category>

<pattern>NO CYBERSECURITY</pattern>

<template>Great choice! Best of luck in your cybersecurity career journey! Here's more information: <a href="https://www.edx.org/become/how-to-become-a-cybersecurity-analyst">Cybersecurity Career Guide</a>.</template>

</category>

<!-- Data Analysis Path -->

<category>

<pattern>DATA ANALYSIS</pattern>

<template>Data Analysts interpret data to make informed decisions. Would you like to know more about how to become a Data Analyst? Please respond with YES DATA ANALYSIS or NO DATA ANALYSIS.</template>

</category>

<category>

<pattern>YES DATA ANALYSIS</pattern>

<template>Data Analysts work with datasets to find trends and insights. Learn more here: <a href="https://www.coursera.org/articles/how-to-become-a-data-analyst">Data Analysis Career Information</a>. Would you like to explore other career options?</template>

</category>

<category>

<pattern>NO DATA ANALYSIS</pattern>

<template>Data Analysis is a growing field. Here's more information: <a href="https://www.coursera.org/articles/how-to-become-a-data-analyst">Data Analysis Career Guide</a>. Good luck with your career!</template>

</category>

<!-- IT Project Manager Path -->

<category>

<pattern>PROJECT MANAGEMENT</pattern>

<template>An IT Project Manager oversees technology projects from planning to completion. Would you like to learn more about becoming an IT Project Manager? Please respond with YES PROJECT MANAGEMENT or NO PROJECT MANAGEMENT.</template>

</category>

<category>

<pattern>YES PROJECT MANAGEMENT</pattern>

<template>IT Project Managers lead teams and ensure that technology projects meet deadlines and budgets. Learn more here: <a href="https://www.indeed.com/career-advice/career-development/how-to-become-an-it-manager">IT Project Management Career Information</a>. Would you like to explore other career paths?</template>

</category>

<category>

<pattern>NO PROJECT MANAGEMENT</pattern>

<template>That's a great career choice! Here's more information: <a href="https://www.indeed.com/career-advice/career-development/how-to-become-an-it-manager">IT Project Management Career Guide</a>. Good luck with your path in IT Project Management!</template>

</category>

<!-- Systems Administration Path -->

<category>

<pattern>SYSTEMS ADMINISTRATION</pattern>

<template>Systems Administrators manage and maintain IT infrastructure. Would you like more information about becoming a Systems Administrator? Please respond with YES SYSTEMS ADMINISTRATION or NO SYSTEMS ADMINISTRATION.</template>

</category>

<category>

<pattern>YES SYSTEMS ADMINISTRATION</pattern>

<template>Systems Administrators ensure that networks and systems run smoothly. Learn more here: <a href="https://in.indeed.com/career-advice/finding-a-job/how-to-become-a-system-administrator">Systems Administrator Career Information</a>. Would you like to explore other career options as well?</template>

</category>

<category>

<pattern>NO SYSTEMS ADMINISTRATION</pattern>

<template>Good luck with your career in Systems Administration! Here's more information: <a href="https://in.indeed.com/career-advice/finding-a-job/how-to-become-a-system-administrator">Systems Administrator Career Guide</a>.</template>

</category>

<!-- Closing -->

<category>

<pattern>THANK YOU</pattern>

<template>You're welcome! I wish you the best in your career search. If you have any more questions, feel free to ask!</template>

</category>

<category>

<pattern>GOODBYE</pattern>

<template>Goodbye! Come back anytime for more career advice!</template>

</category>

</aiml>

Part D

For training cases, I focused on typical student preferences (e.g., programming, data analysis, cybersecurity), creating a decision tree for each career path based on user input. AIML templates allow the bot to respond with specific information about each career, using <pattern> and <template> pairs to capture student responses and provide appropriate suggestions.

**Example:**

* Pattern: PROGRAMMING
* Template: Recommends Software Engineering and provides a resource link.

I enhanced the chatbot with relevant follow-up questions and career links, ensuring users receive informative responses.

Part E

**Chatbot Installation and Access Manual**

**Bot Name: Tray careeradvisor wgu**

**Platform: Pandorabot Playground**

**Link:** [**Pandorabot Bot Directory**](https://playground.pandorabots.com/dash/bot-directory)

**Step-by-Step Instructions to Access the Chatbot**

1. **Visit the Pandorabot Playground:** Open your web browser and go to [Pandorabot Playground Bot Directory](https://playground.pandorabots.com/dash/bot-directory).
2. **Find the Chatbot:** In the bot directory, search for the bot named **"Tray careeradvisor wgu"** using the search functionality.
3. **Interact with the Chatbot:**
   * Click on the bot name (**Tray careeradvisor wgu**) to open the chatbot interface.
   * Type HELLO or any greeting to begin the conversation.
4. **Explore Career Guidance:**
   * The chatbot will prompt you to choose from different career paths, such as **Programming, Cybersecurity, Data Analysis, IT Project Management, or Systems Administration**.
   * Select an option by typing the area you are interested in (e.g., type YES PROGRAMMING to explore software engineering).
   * The chatbot will then guide you with career advice and resource links based on your selection.
5. **Further Interaction:** Continue answering the chatbot’s follow-up questions to receive more detailed information about the selected career.
6. **Ending the Conversation:**
   * If you’re done exploring, type GOODBYE to end the conversation.

**Common Commands and Interactions**

* **HELLO**: Start the conversation.
* **YES or NO PROGRAMMING**: Learn more about Software Engineering.
* **YES or NO CYBERSECURITY**: Explore Cybersecurity careers.
* **YES or NO DATA ANALYSIS**: Learn more about becoming a Data Analyst.
* **YES or NO PROJECT MANAGEMENT**: Find out about IT Project Management.
* **YES or NO SYSTEMS ADMINISTRATION**: Learn about Systems Administrator roles.
* **THANK YOU**: End the conversation politely.
* **GOODBYE**: End the session.

**Troubleshooting**

* **The chatbot isn’t responding**: Try refreshing the page and restarting the conversation.
* **I can’t find the bot**: Make sure you are searching for **Tray careeradvisor wgu** in the bot directory.
* **Error messages**: If the bot responds unexpectedly, check the internet connection and refresh the page.

Part F

**Strengths**:

* **Ease of Use**: Pandorabot's AIML interface is straightforward, making it easy to deploy chatbots quickly.
* **Interactivity**: AIML allows for various predefined responses based on user input.

**Weaknesses**:

* **Limited Flexibility**: AIML-based chatbots do not support advanced natural language processing, limiting more dynamic conversations.
* **Lack of Context Memory**: The bot cannot remember previous user inputs over a long session.

Part G

**Monitoring**: Regularly check chatbot interaction logs through the Pandorabot dashboard to ensure they respond as expected.

**Maintenance**: Periodically update the AIML files to reflect new job roles or add improved responses. Collect feedback from students to refine the bot’s interaction flow.

Part I

Columbia Engineering Boot Camps. (n.d.). *How to become a software engineer from scratch*. Columbia Engineering. <https://bootcamp.cvn.columbia.edu/blog/how-to-become-software-engineer-from-scratch/>

edX. (n.d.). *How to become a cybersecurity analyst*. edX. <https://www.edx.org/become/how-to-become-a-cybersecurity-analyst>

Coursera. (n.d.). *How to become a data analyst*. Coursera. <https://www.coursera.org/articles/how-to-become-a-data-analyst>

Indeed Editorial Team. (2023, April 24). *How to become an IT manager*. Indeed. <https://www.indeed.com/career-advice/career-development/how-to-become-an-it-manager>

Indeed Editorial Team. (2023, April 24). *How to become a system administrator*. Indeed. <https://in.indeed.com/career-advice/finding-a-job/how-to-become-a-system-administrator>