

## Internship Program: AI Prompting Task

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### Task Title: AI Prompting for Knowledge-Based AI Agent

#### Introduction:

In this task, interns will develop an AI-powered chatbot that interacts with users and provides knowledge on any topic they request. The chatbot should use AI prompting techniques to generate informative and context-aware responses. The goal is to explore how AI can assist in delivering accurate and engaging knowledge-based interactions.

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#### Technologies to Use:

- **Programming Language: Python**
  - **Libraries & Tools:**
    - OpenAI API (for AI-driven responses)
    - Flask / FastAPI (for building a simple web-based chatbot interface)
    - Tkinter / PyQt (for a desktop-based chatbot UI)
    - SpeechRecognition (for voice input, optional)
    - gTTS / pyttsx3 (for text-to-speech conversion, optional)
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#### Task Explanation:

1. **Understanding AI Prompting:**
  - Research AI-powered tools like OpenAI API and ChatGPT.
  - Learn how to generate effective prompts to retrieve useful responses.
2. **Building the AI Chatbot:**
  - Develop a chatbot that takes user input and generates AI-driven responses.
  - Integrate OpenAI API to process user queries and provide relevant knowledge.
3. **Enhancing Interactivity:**
  - Implement a simple UI for better user interaction using Flask, FastAPI, Tkinter, or PyQt.
  - Optionally, integrate voice input and text-to-speech capabilities for a more interactive experience.
4. **Testing and Optimization:**
  - Test different AI prompts to improve response accuracy and relevance.
  - Optimize the chatbot for handling various types of queries effectively.

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**Conclusion:**

This task will allow interns to explore AI-driven conversations and build interactive applications. By leveraging AI prompting, they will gain insights into chatbot development, knowledge retrieval, and user interaction design.

**Deliverables:**

- Source code in a GitHub repository (or shared via a zip file).
- A short report/documentation explaining the AI prompting techniques used.
- Screenshots or files showcasing the chatbot in action.
- A demonstration video (if possible) showcasing the AI-driven chatbot responses.

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Good luck! Happy coding! 🚀