Project Report: AI Career Advisor Using Prompt Engineering

1. Introduction

This project focuses on developing a simple AI-based Career Advisor using **Prompt Engineering techniques only**, without relying on external datasets or complex model fine-tuning. The goal is to design effective prompts that guide a Large Language Model (LLM) to behave like a professional career advisor and provide meaningful suggestions related to resumes, job preparation, and learning paths.

2. Objective

- To build an LLM-powered chatbot using prompt engineering.
- To create structured prompts that define the chatbot's role, behavior, and response style.
- To understand how prompt design influences the quality and accuracy of AI-generated responses.

3. Methodology

The system was created using three main prompt types:

a. Role-Based Prompt

Defines the model's identity as a *Career Advisor*.
Example: Instructing the LLM to act like an expert career consultant with knowledge of resume writing, job skills, and career growth.

b. Instruction-Based Prompt

Provides clear directions on how the model should respond.
Example: "Give step-by-step suggestions for improving a resume for a software engineering job."

c. Example-Based Prompt (Few-Shot Prompting)

Includes sample questions and ideal responses to help the model learn the expected format and tone.

These prompts were combined to control the LLM's behavior and ensure consistency in the output.

4. Features of the AI Career Advisor

- Suggests career paths based on user skills and interests.
- Provides resume improvement tips.
- Recommends courses, certifications, and skill-development plans.
- Answers general career-related questions in a professional tone.

5. Outcome

The final system successfully delivers structured and useful career advice using only prompt engineering. It demonstrates that well-designed prompts can significantly influence model behavior, making it possible to build functional AI applications without training data or complex pipelines.

6. Conclusion

This project highlights the power of prompt engineering in shaping LLM outputs. By crafting effective prompts, it is possible to develop practical AI tools like a Career Advisor with minimal resources. This approach is useful for students and developers who want to build AI solutions quickly and efficiently.