

AI AND PROMPT ENGINEERING

Assignment as an Intern at VaultofCodes

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INTRODUCTION

- Artificial Intelligence (AI): Simulation of human intelligence in machines to perform tasks like learning, reasoning, and problem-solving.
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- Prompt Engineering: A technique to design effective prompts for language models like ChatGPT to get accurate and relevant outputs.
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- Why it matters: Good prompts improve AI performance without needing to retrain the model.

WHAT IS ARTIFICIAL INTELLIGENCE?

AI allows machines to perform tasks that typically require human Intelligence.

Types of AI:

1. Narrow AI (eg., Siri, Google Assistant)
2. General AI (Still under research)

Common Domains:

Machine Learning, Natural Language Processing, Computer Vision, Robotics

WHAT IS PROMPT ENGINEERING?

- Prompt Engineering involves crafting clear, specific instructions to guide AI models in generating better responses.
- Example:
- Basic Prompt: “Tell me about India”
- Improved Prompt: “Explain the history of India in 100 words for school students”
- It focuses on improving structure, clarity, and intent in inputs.

IMPORTANCE & APPLICATIONS

Importance -

- Enhances AI response quality
- Saves time and effort
- Helps non-technical users use AI effectively

Applications -

- Chatbot
- Content writing
- Virtual assistants
- Education tools
- Customer Support

KEY CONCEPTS IN PROMPT ENGINEERING

- Zero-shot prompting: Asking questions without examples.
- Few-shot prompting: Giving 1–3 examples in the prompt.
- Chain-of-thought prompting: Encouraging the model to explain its reasoning step-by-step.
- Instruction-based prompting: Framing inputs as clear tasks or commands.

FUTURE SCOPE

- High demand across industries adopting AI
- Essential skill for future tech professionals
- Leads to new careers like Prompt Engineer
- Key for improving human-AI interaction in tools like ChatGPT, Copilot, etc.

SUMMARY

- AI and prompt engineering are powerful tools in modern technology.
- Writing better prompts improves AI performance and makes it more useful in real-world applications.
- Understanding prompt design is becoming an important skill across many careers.