NavAdr Technologies Solutions

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This **Prompt Engineering course** is designed to provide participants with **intermediate-level skills** equivalent to 2–3 years of experience. It covers foundational concepts, techniques for crafting effective prompts, advanced use cases, integrations, and real-world applications with generative AI systems like ChatGPT, DALL-E, and Codex.

Week	Topic	Key Concepts	Hands-On Activities
1	Introduction to Prompt Engineering	Basics of generative AI, role of prompt engineering, capabilities of LLMs.	Exploring ChatGPT and generating responses to simple prompts.
2	Fundamentals of LLMs	How language models work, tokenization, understanding context, limitations of LLMs.	Experimenting with token limits and model behaviors using OpenAI API.
3	Structuring Effective Prompts	Techniques: clarity, specificity, and role specification.	Writing structured prompts for varied outputs (e.g., summaries, lists).
4	Fine-Tuning Prompt Length	Managing token usage, balancing detail vs. conciseness.	Refining prompts to fit within token limits while retaining quality.
5	Iterative Prompt Development	Incremental improvements, testing for consistent outputs, error handling.	Iteratively refining prompts to achieve desired outputs.
6	Prompting for Text Completion	Open-ended vs. directive prompts, controlling tone and style.	Writing prompts for storytelling, formal reports, and casual outputs.
7	Advanced Prompting Techniques	Few-shot, zero-shot, and one-shot prompting.	Comparing outputs with different prompting techniques.
8	Role-Based Prompting	Defining roles for AI: teacher, coder, assistant, etc.	Crafting prompts for specific roles and analysing outputs.
9	Prompting for Creative Outputs	Generating poetry, scripts, or fictional content.	Writing prompts for creative projects like poems or short stories.
10	Prompting for Visual Generation	Understanding DALL-E, creating detailed image generation prompts.	Generating art and images with DALL-E and analyzing prompt impact.
11	Prompting for Code Generation	Using Codex for code generation, debugging, and optimization.	Writing prompts to generate Python scripts or debug existing code.
12	Bias and Ethics in Prompt Engineering	Recognizing bias in AI outputs, ethical considerations, and responsible usage.	Analyzing and mitigating bias in generated outputs.

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13	Prompting for Data Analysis	Summarizing datasets, generating SQL queries, and interpreting results.	Writing prompts for querying and analyzing sample datasets.
14	Prompting for Business Applications	Writing emails, generating reports, and automating workflows.	Crafting prompts for business use cases like client emails or summaries.
15	Prompting for Multimodal Models	Exploring GPT-4 multimodal capabilities (text and images).	Creating prompts for analyzing or generating content with mixed inputs.
16	Prompt Debugging and Optimization	Troubleshooting prompt issues, handling ambiguous outputs.	Debugging poorly performing prompts and optimizing results.
17	API Integration and Automation	Using OpenAI/other APIs for scalable applications.	Building a simple automation pipeline with AI-generated prompts.
18	Building Prompt Templates	Creating reusable prompt frameworks for common tasks.	Designing templates for FAQs, customer support, or training content.
19	Fine-Tuning Models with Prompts	Basics of fine-tuning models for specific use cases.	Crafting datasets for fine-tuning and testing outcomes.
20	Performance Evaluation	Measuring prompt effectiveness: consistency, accuracy, and quality.	Designing evaluation metrics and testing different prompt strategies.
21	Industry-Specific Prompt Engineering	Customizing prompts for healthcare, finance, and education.	Writing domain-specific prompts for various industries.
22	Emerging Trends in Prompt Engineering	Latest advancements: AI alignment, adaptive prompting, and real-time tuning.	Exploring real-world applications and creating futuristic prompts.
23	Capstone Project Development	Applying all concepts to create an end-to-end project.	Building a prompt-based solution for a real-world use case.
24	Capstone Presentation	Presenting capstone projects.	Showcasing projects
25-36	Live Project	3 Month Experience on Live Project	Live Project Work.

NavAdr (Nurturing AI-driven Vision and Advancement in Data and Reengineering)