

Prompt Engineering: Techniques and Best Practices (2 Days)

Overview

This Generative AI Prompt Engineering training course teaches students how to design and refine prompts for natural language processing (NLP) models. Students learn how to select the right inputs, questions, and context to ensure that the model generates accurate and relevant outputs. There is also a focus on prompt engineering for generative NLP models such as GPT (Generative Pre-trained Transformer).

Audience

Anyone writing or composing copy or wanting to produce more effective written work, including emails.

Prerequisites

No prior experience is presumed.

Course Objectives

Upon completion of this course, participants should:

- Write Python scripts that take in user input and output results
- Use Anaconda to simplify package management
- Create and use advanced data structures like vectors, matrices, and data frames
- Access data from external sources and manipulate it with Python data structures
- Use descriptive analytics and statistical analysis techniques to derive useful insight from data
- Visualize and format data in common charts using matplotlib
- Drive data-driven decisions in your organization

Course Outline

Chapter 1: Introduction to AI Language Models and Prompt Engineering

- Overview of AI language models
- Introduction to Prompt Engineering
- Importance of Prompt Engineering in AI applications

Chapter 2: Understanding the Prompt

- Types of prompts
- Components of a prompt
- Factors affecting prompt effectiveness

Chapter 3: Techniques for Crafting Effective Prompts

- Designing prompts for clarity
- Leveraging context and examples
- Balancing brevity and detail

Chapter 4: Restricting ChatGPT's Answers to Your Own Document Corpus

- Setting up a custom document corpus
- Techniques for guiding AI model focus
- LLM focus and attention, and GPT3 vs GPT4 differences
- Ensuring relevant and accurate outputs

Chapter 5: Generating Synthetic Data and Images

- Crafting prompts for CSV data generation
- Formatting AI outputs for data visualization
- Prompt engineering for SVG image generation
- GPT4 SVG images vs DALL-E image generation

Chapter 6: Language Translation and Slide Creation

- Designing prompts for language translation
- Ensuring translation accuracy and fluency
- Generating slides using markdown and Prompt Engineering

Chapter 7: Prompt Engineering for Various Applications

- Creative writing and content generation
- Question-answering and information retrieval
- Data processing and transformation

Chapter 8: Iterative Prompt Refinement

- Analyzing AI model outputs
- Techniques for prompt iteration and improvement
- Incorporating user feedback into prompt design

Chapter 9: Group Project: Applying Prompt Engineering to Real-world Scenarios

- Identify a problem that can be solved using AI language models
- Design and refine prompts to achieve desired outcomes
- Present project outcomes and Prompt Engineering process

Chapter 10: Ethics and Best Practices in Prompt Engineering

- Ethical considerations for AI language model usage
- Ensuring data privacy and security
- Best practices for Prompt Engineering in professional settings