Understanding Generative AI

AI Model Types

- Text Models (e.g., GPT, Claude): Generate or transform written content (drafts, summaries, translations).
- Image Models (e.g., DALL·E, Midjourney): Create images from text prompts or enhance existing images.
- Audio Models (e.g., Whisper): Transcribe, generate, or modify audio content.
- Multimodal Models (e.g., GPT-4V): Combine multiple data types (text, images, audio) in one pipeline.

Prompt Engineering Fundamentals

- Zero-Shot: Ask the model directly without examples—good for quick tasks.
- Few-Shot: Provide small examples to guide style or format.
- Chain-of-Thought: Encourage step-by-step explanations to deepen clarity or logic.
- Iterative Refinement: Pose follow-up prompts to improve or correct outputs.

Prompt Structure Templates

- Role + Task: "You are an AI tutor. Summarize the text below…"
- "Act as X": "Act as a market research analyst and list key vendor details…"
- Contextual Cue: "Given this scenario [paragraph], recommend next steps…"
- Conversational: "Walk me through the process of…"
- Output Format: "Draft a table that compares features…"
- Stepwise Logic: "Outline the reasoning behind choosing…"
- Target Audience: "Explain this concept for a novice level…"

Do's and Don'ts

Do:
- Provide context and specific instructions (word limits, bullet points).
- Ask for chain-of-thought if you need deeper reasoning.

Don't:
- Overwhelm with irrelevant info in a single prompt.
- Rely on the model for final legal or financial decisions without review.
- Models (e.g., GPT-4V): Combine multiple data types (text, images, audio) in one pipeline.

Use Case Examples

- Document Summaries: Rapidly condense lengthy policy docs.
- Research Overviews: Generate bullet points on new technologies or trends.
- Policy Clarifications: Reword complex regulations in plain language.

Evaluation Methods

- Spot-Check: Read segments for accuracy and clarity.
- Compare Versions: Ask for multiple drafts and pick the best.
- Expert Review: Have SMEs confirm final content, especially for compliance.

Prompt Collection

Content Creation

- "Summarize this 10-page acquisition policy in 100 words, focusing on new regulations."
- "Draft a 300-word overview of generative AI for a non-technical audience."
- "Rewrite the following paragraph in plain language suitable for a public press release."
- "Generate a short blog post introducing generative AI's relevance to government contracting."

Data Analysis/Summarization

5. "Extract the key points from these three market research documents and compare them in a table."
6. "Summarize the following financial report, highlighting budget overruns and underspends."
7. "Provide a bullet-point timeline of major milestones from this 50-page contract."
8. "Condense the results of this vendor performance survey into 5 main takeaways."

Code Generation

9. "Generate a simple Python script that reads a text file and summarizes its content."
10. "Create pseudo-code for an automated data-cleaning tool that identifies duplicates."
11. "Outline a basic HTML/CSS page for displaying summarized reports."

Creative Ideation

12. "Propose three innovative ways to train new acquisition professionals using game-based learning."
13. "Brainstorm 5 ways generative AI could streamline document review in large organizations."
14. "Suggest futuristic use cases of AI in defense acquisition, focusing on collaboration tools."

Problem-Solving

15. "Identify potential risks in adopting generative AI for document drafting and propose mitigations."
16. "Provide a step-by-step plan for evaluating a suspect vendor's performance metrics."
17. "Outline a conflict resolution strategy for disagreements between program and contracting teams."

Educational Purposes

18. "Explain how generative AI differs from traditional machine learning for a high-school audience."
19. "Create a short quiz (5 questions) on the basics of prompt engineering."
20. "Design a 5-minute lesson plan on chain-of-thought prompting for new AI users."