EFFECTIVE AI PROMPTING TECHNIQUES

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Effective AI Prompting Techniques: Crafting Effective Queries for Generative AI

BRIEF OVERVIEW[1]:

We're in the age of generative AI, where tools like ChatGPT, Gemini, and Microsoft's Copilot are becoming ubiquitous. But here's the uncomfortable truth: most people are using these technologies sub-optimally. They're asking the wrong questions, or rather, they're not asking them *well*.

Think of it like this: you wouldn't ask a seasoned engineer to "fix the car" without telling them what's wrong, right? Yet, we approach AI with vague prompts, expecting magic. That's not how it works.

The Core Problem: Prompting as a Skill

My course video made it clear that your *efficiency* in asking these systems questions determines how good they are at helping you. It's not just about throwing words at an AI; it's about understanding the *physics* of the process.

We call this "AI prompting," a methodology where we learn to craft specific instructions to get desired outcomes. And it's not just about simple tasks like generating poems or images. We're talking about real-world applications: research, strategy, and problem-solving.

The Ndubuisi Ekekwe Case Study: Context is King

Take the case study on Jumia as an example. I did not for a report on Jumia's earnings. I provided *context*:

- "I'm Ndubuisi Ekekwe, a contributor at Tekedia.com."
- "I want you to understand my previous analysis of Jumia."
- "I want a research report in the style and voice of Tekedia."

Why does this matter? Because it allows the AI to tailor its response, to understand the *lens* through which Ekekwe views the world. He's not just asking for information; he's asking for *informed* information, filtered through his unique perspective. **And that, my friends, is where the magic happens.**

Levels of AI: Foundation to Generative

We need to understand that there are layers to AI. We have the foundation models, the large language models (LLMs), and then the generative AI layer. Most companies, and most of us,

[1] video in the class board

are operating at the generative level. This is where we see the practical applications, the tools that help us solve real problems. **But to truly leverage these tools, we need to master the art of prompting.**

The Three Pillars of Effective Prompting

1. Context: Provide background information. Who are you? What's your perspective?
2. Specificity: Be clear and precise. What exactly do you need?
3. Structure: Define the desired output. Table? Chart? Article?

These aren't just suggestions; they're the *physics* of AI prompting. They're the principles that govern how these systems respond.

Eight Tips to Elevate Your Prompts[2]

- Give examples.
- Specify the audience.
- Tell the AI the format.
- Define the goal.
- Use natural language.
- Ask the AI to show its thought process.
- Fine-tune your prompts.

These are practical steps, actionable insights that you can implement immediately

The Future: Prompting as a Core Competency

As we move deeper into the AI era, the ability to prompt effectively will become a core competency. It's not just about knowing *what* to ask; it's about knowing *how* to ask.

We're not just users anymore; we're conductors, orchestrating the power of AI. And to conduct effectively, we need to understand the score, the *physics* of the process.

So, are you asking the right questions? Or are you just throwing words at a machine, hoping for a miracle?

Let's discuss. What are your experiences with AI prompting? Share your thoughts in the comments section in the class board.

[2] Credit: techradar

LECTURE OBJECTIVES:

- Understand the fundamental concept of AI prompting.
- Recognize the importance of effective prompting for maximizing AI utility.
- Learn and apply key principles for crafting high-quality prompts.
- Analyze real-world examples of effective prompting.
- Discuss the strategic implications of AI prompting in various fields.

LECTURE OUTLINE:

I. Introduction: The Power of the Question

- **Hook:** Begin with a brief discussion on the increasing prevalence of AI tools in academic and professional settings.
- **Problem Statement:** Highlight the common challenge: many users struggle to obtain satisfactory results from AI.
- **Thesis:** Introduce the concept of AI prompting as a critical skill for leveraging generative AI technologies.
- **Overview:** Briefly outline the lecture's structure: defining AI prompting, examples, crafting techniques, and case studies.

II. Defining AI Prompting: The Art and Science of Inquiry

- **Definition:**
    - Explain that AI prompting is the process of formulating specific instructions or questions (prompts) to guide AI systems.
    - Emphasize that the quality of the prompt directly influences the quality of the AI's output.
- **AI Technology Levels:**
    - Explain the differences between the foundation level, large language model level, and the generative AI level.
    - Explain that most users will be interacting with the Generative AI level.
- **The Importance of Efficiency:**

- Discuss how effective prompting enhances efficiency in research, writing, and problem-solving.
- Connect this to the concept of "computational thinking" and its relevance in the digital age.
- Relate this to the idea that in the future, the skill of prompting may be more important than having all the answers.

III. Examples of AI Prompts: From Simple to Sophisticated

- **Basic Examples:**
  - "Write a poem about a sunset on a beach." (Illustrates simple creative output)
  - "Create an image of a soccer ball." (Demonstrates image generation)
  - Discuss how these are basic and are not very practical for most users.
- **Advanced Example: Ndubuisi Ekekwe's Jumia Analysis Case Study:**
  - **Analyze Ndubuisi Ekekwe's prompt, highlighting its key components:**
    - Context: "I'm Ndubuisi Ekekwe, a contributor at Tekedia.com."
    - Specificity: "I want a research report about Jumia's latest earnings."
    - Style: "In the style and voice of Tekedia."
    - Explain that this is an example of creating a very effective prompt.
  - Discuss the significance of providing context, specifying desired outputs, and aligning with a particular style.
  - Explain how the lecturer modified the prompt to represent a different person, and how the AI adapted.
- **Advanced Example: Ben Thompson's Interview Preparation:**
  - Explain how Ben uses effective prompting to prepare for an interview.
  - Explain how he asks for background information, company information, and even what questions to ask.
  - Explain how he refines the prompt by asking the AI to review his previous work, so that the AI can understand his desired style of questioning.

IV. Crafting Effective Prompts: Principles and Techniques

- **The Three Core Factors:**

- **Context:**
    - Explain the importance of providing background information to frame the AI's response.
    - Discuss how context helps the AI understand the user's perspective and needs.
- **Specificity and Clarity:**
    - Emphasize the need for precise language and detailed instructions.
    - Explain how ambiguity can lead to irrelevant or inaccurate outputs.
    - Example: "Jumia's quarterly results for [specific quarter]" vs. "Information about Jumia."
- **Structure:**
    - Discuss the importance of specifying the desired output format (e.g., table, chart, article).
    - Connect this to the concept of "data visualization" and its role in communication.

- **Tips for Great AI Prompting (TechRadar):**
    - **Give Examples:** Provide reference points to guide the AI.
    - **Specify the Audience:** Tailor the output to the intended recipients.
    - **Tell the AI the Format**: Define the desired output structure.
    - **Define the Goal**: Clarify the purpose of the request.
    - **Use Natural Language**: Employ clear, conversational language.
    - **Ask the AI to Show Its Thought Process**: Gain insight into the AI's reasoning.
    - **Fine-Tune Your Prompts**: Iterate and refine for better results.
    - Explain each of the tips, and give real world examples.

V. Strategic Implications and Applications (Personal Study):

- **Research and Writing:**

- Explore how effective prompting can enhance research efficiency and improve writing quality. Example: Using AI to generate literature reviews, summaries, or outlines.
- Use any of these platforms
  - https://chatgpt.com/
  - https://gemini.google.com/
  - https://copilot.microsoft.com/

- **Problem-Solving and Decision-Making (Personal Study):**
  - Explore how AI can be used to generate potential solutions or analyze complex data. Example: Using AI to simulate scenarios or forecast trends.
- **Ethical Considerations (Personal Study):**
  - Briefly discuss with someone the ethical implications of AI prompting, including bias, misinformation, and intellectual property.

VI. Conclusion and Q&A

- **Recap:** Summarize the key takeaways of the lecture.
- **Call to Action:** Encourage students to practice and experiment with AI prompting in their academic and personal lives.
- **Q&A:** Address any questions from the students (Live Zoom)

ADDITIONAL PERSONAL STUDY WORK:

- **Prompt Engineering Assignment**: Students create a series of prompts for a specific task and evaluate the AI's outputs.
- **Case Study Analysis**: Students analyze real-world examples of AI prompting and discuss their effectiveness.

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