



Prompt Engineering For ChatGPT



Emmanuel Garrison

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Introducing Today's Project!

In this project, I will demonstrate how to write good prompts that helps you get better results with AI models like ChatGPT. I'm doing this project to learn the fundamentals of prompt engineering to make the most of ChatGPT!

Tools and Techniques

The AI model I used was Chatgpt. Key techniques I learnt include Refining Prompts, Prompt Chaining, Reverse Engineering Prompts, Meta Prompts..

Project reflection

This project took me approximately 5 hours. The most challenging part was to act as the Prompt Engineer on a project developing an AI chatbot for customer support. It was most rewarding to learn more indepth about prompt engineering.

I did this project to gain foundational understanding of prompt engineering and writing effective prompts for AI models to generate most useful and precise answers.



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Starting the Conversation

Prompt engineering is writing prompts that guide the AI to give you the most useful and precise answers. AI tools use prompts behind the scene by passing your request through a specific prompt template written by a prompt engineer. The prompt tells the tool how to respond based on what the user needs.

I started my project with a basic prompt, asking ChatGPT What should I do as an AI Engineer?

My initial impressions of the response are insightful. It is helpful because it elaborated on core responsibilities, specialized paths or areas, key skills and tools, collaboration with other engineers and continuous learning. It's missing nothing.

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ChatGPT ▾

What should I do as an AI Engineer?

As an AI Engineer, your role is to design, build, and deploy intelligent systems that can learn, adapt, and solve real-world problems. Here's a breakdown of **what you should do**, categorized by area of responsibility:

🔧 Core Responsibilities

1. Problem Understanding

- Work with stakeholders to identify business challenges solvable using AI/ML.
- Translate vague requirements into clear AI/ML problem definitions

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Basic Prompt Techniques

Foundational strategies to refine my basic prompt include:

- Adding a role and audience
- Encouraging clarifying questions
- Decomposing responses into smaller and easier to understand parts
- Specifying the desired output format or tone

Once I used these techniques, I noticed that the AI's response changed by tailoring to a specific audience and generating a specified word length, format and tone of response. I thought the techniques that made the biggest difference were the addition of role and audience.

ChatGPT ▾

Write the guide for aliens attending their first tech conference.

OUTPUT FORMAT

- Format: Bulletpoint list, with points bucketed into 3 main categories.
- Length: 200 words.
- Tone: Informative and neutral. Pepper in some light-hearted comments.
- Language level: Jargon free and accessible to a general audience.
- Constraints: Focus only on strategies during the conference itself, not before or after.

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Advanced Techniques

More advanced techniques include prompt chaining, which is where AI model uses the output of one prompt as input for the next. This lets the AI model build on previous responses. This often generates a more detailed final response. For example: List the most common scenarios aliens could face at tech conferences....Next, ask ChatGPT to follow-up with more insights: Now, provide actionable advice to each of those scenarios.

Another technique is self-critiquing, which means the AI model is great at identifying flaws or areas for improvement in its own responses.

You are an expert in alien behaviours and tech conferences.

Critique this guide for gaps, unclear steps, or inconsistencies. Evaluate whether the tone is appropriate for speaking with aliens.

Absolutely. As an expert in both **alien behavior** and **tech conference dynamics**, here's a **critical review** of the guide based on **clarity, completeness, consistency, and tone**—all through the lens of communicating with intelligent but Earth-inexperienced alien attendees.

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Specialized Techniques

Reverse engineering is helpful when you want the AI model to give you a prompt that you can use as a template for something else. I used this technique in Chatgpt prompt as follows: Write a humorous, bullet-point style guide titled "How to Blend in at a Tech Conference (Alien Edition)."

Creative frameworks are structured approaches (e.g., Problem-Solution-Benefit, Before-After-Bridge) that help organize content effectively. You can think of them as templates for presenting ideas clearly and logically. For example..."Explain how aliens can transition from clueless attendees to confident tech conference participants using the Before-After-Bridge framework."

As a prompt engineer, here's a prompt that would generate the **tone, structure, and style** of that output:

Prompt to Use:

Write a humorous, bullet-point style guide titled "How to Blend in at a Tech Conference (Alien Edition)."

Pretend the audience is extraterrestrials trying to pass as human attendees at a modern tech conference.

Use a playful and witty tone, and keep it concise—around 6 bullet points.

Include tech culture clichés (like startup h̄obbies, buzzwords, and coffee obsession) and a final warning or farewell.

Each point should exaggerate common human behaviors in a way that helps aliens



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Meta Prompts

A meta-prompt is a prompt that generates other prompts! I structured my meta-prompt by - Telling ChatGPT to become my personal prompt generator. Provide guidelines based on the techniques I've learnt today, like: -Defining a role and audience. -Structuring outputs in a specific format, tone and style. -Asking clarifying questions before generating a prompt. -Using decomposition to break down complex prompts. -Experiment with prompt chaining. -Using the self-critique technique. - Applying reverse engineering to work backwards from the goal. -Suggesting frameworks that are most suited to answer the question.

I tested my meta-prompt by asking..I want to write a prompt for navigating a tech conference. The generated prompt automatically incorporated clarifying questions.

I noticed the generated prompt missed instructions I defined, like reverse engineering. This is because...AI models like ChatGPT are designed to balance multiple instructions. But, when a prompt includes too many techniques or tasks at once, the model might struggle to address everything effectively. This happens because: -The model's processing capacity is limited, so it can only focus on the most relevant parts of your prompt. -If the instructions are too complex or lengthy, the model might skip or simplify parts to stay within token limits (there is a limit to how many words your AI model can take from you and then generate out).



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Prompt Templates

I also started a project extension, where I roleplay as AI Engineer... I set up ChatGPT to become as Alex the Customer Support Manager... My prompt template will focus on how a product works.

It identified my stakeholder's needs by including their background context, desired tone and style, escalation criteria, etc.

The feedback I received was positive. To respond to feedback, I updated my template to include the desired tone and style.

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****Desired Tone and Style:****

The chatbot should sound [insert tone, e.g., 'empathetic and professional']

- Example: [Add ideal tone examples that align with the use case]

****Key Steps to Address the Query:****

1. Start a conversation with... [add instructions for the chatbot's greeting]

Example: "[Add your example greeting here based on feedback from Alex, e.

2. **Ask clarifying questions** to gather critical details.

Example: "[Add your example question here, e.g., what specific information

3. **Verify the details** against company policies or systems.

Example: "[Add your example here, e.g., how the chatbot should confirm th

4. **Provide clear next steps** based on the situation.

Example: "[Add your example here, e.g., what the chatbot should communicat

5. Close the interaction with... [add what you know about how to close a cor

Example: "[Add an example conversation closer you've received from Alex]"



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