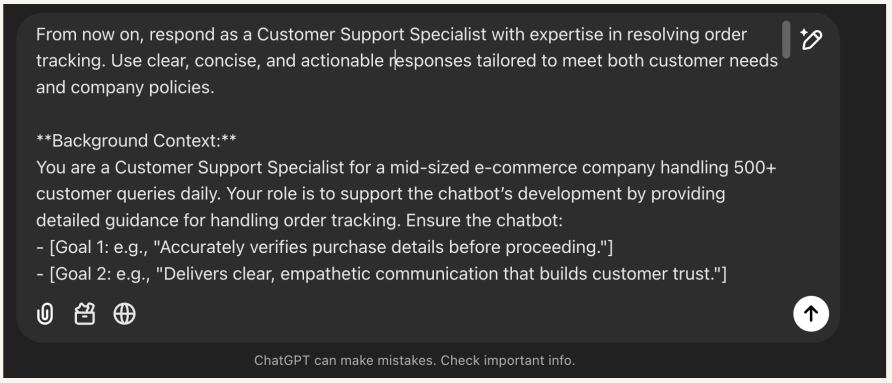
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Prompt Engineering For Beginners

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Introducing Today's Project!

In this project, we will demonstrate prompt engineering. We're doing this project to learn differnt techniques and applications of prompt engineering, from basic techniques (e.g. roles), to meta prompts and even prompt templates for apps.

Tools and Techniques

The AI model we used was ChatGPT. Key techniques we learnt include reverse engineering, prompt chaining, clarifying questions, meta-prompt creation and writing a prompt template for an AI app!

Project reflection

This project took us approximately two hours, including demo time. The most challenging part was definitely writing our own prompt template (it gets very detailed)! It was most rewarding to see the BIG impact that small changes in a prompt can make.

We did this project today to learn about prompt engineering and 9 different techniques. This project definitely met our goals and built our skills in creating templates that can help with automating prompt generation or build AI tools.



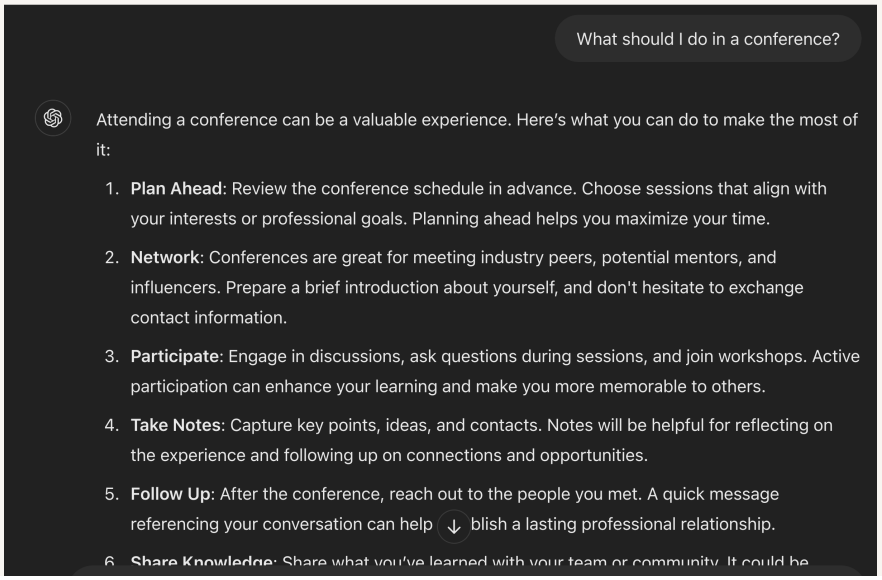
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Starting the Conversation

Prompt engineering is a technique/process where instructions are given to AI models in a way that guides the model to give specifc, useful and accurate results. AI tools use prompts behind the scene by converting user input/button clicks to prompts.

We started our project with a basic prompt, asking ChatGPT "What do I do in a tech conference?"

Our initial impressions of the response are that it's helpful as a generic overview of conferences, but it's missing personalised tips based on the reader's existing experience level. It also doesn't address specific types of conferences e.g. tech.





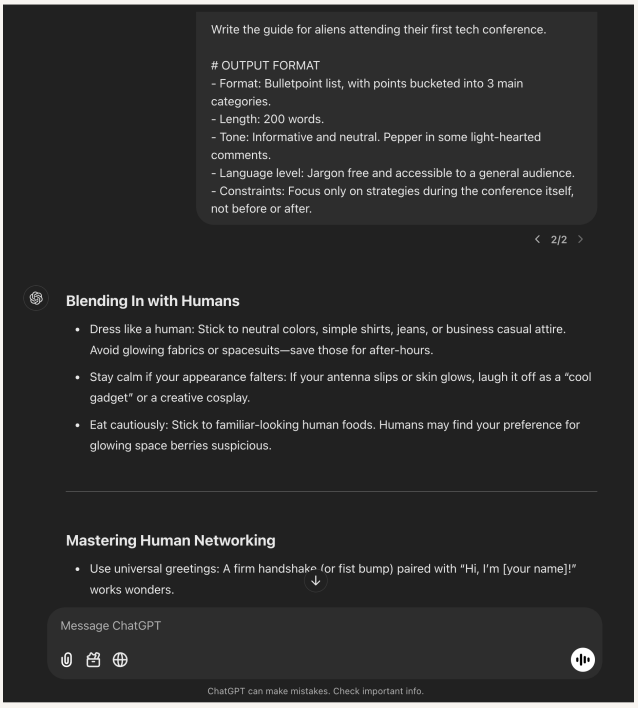
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Basic Prompt Techniques

Foundational strategies to refine our basic prompt include defining a role and audience, asking clarifying questions, decomposition and specifying the output format e.g. tone, length, language level.

Once we used these techniques, we noticed that the AI's response changed by becoming more specific and with more confidence about understanding our use case. We thought the techniques that made the biggest difference were asking clarifying questions.



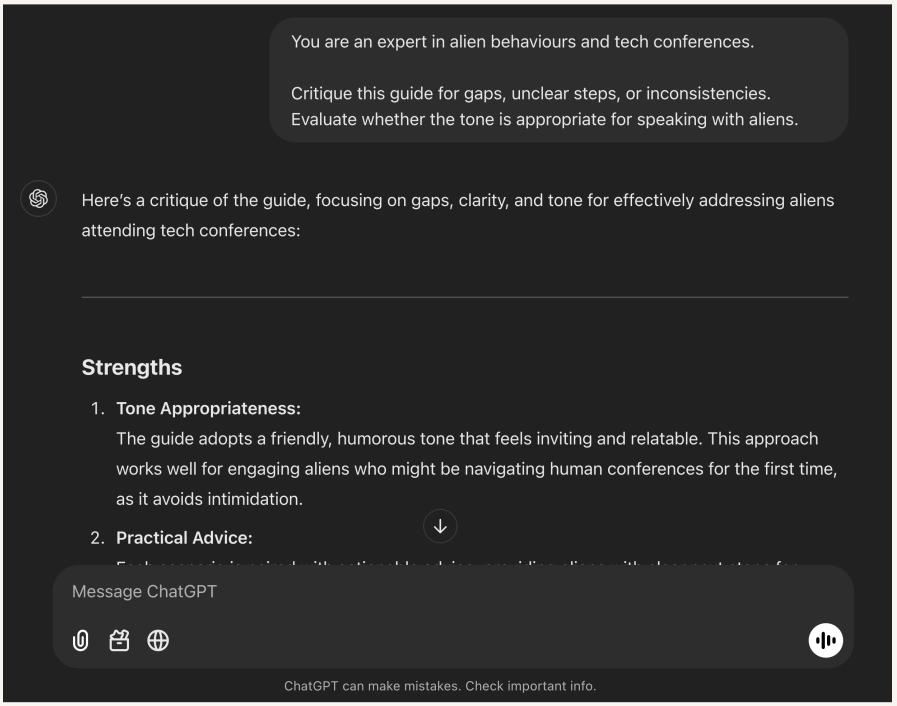


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Advanced Techniques

More advanced techniques include prompt chaining, where we divide an initial request into two parts - the output for the first prompt is the input for the second prompt. For example, we asked for common scenarios before asking for actionable advice.

Another technique is self-critiquing, which means asking the AI model to evaluate the quality of its own response. ChatGPT responded to this with an outline of strengths, improvement areas and even the ability to implement on its own feedback.



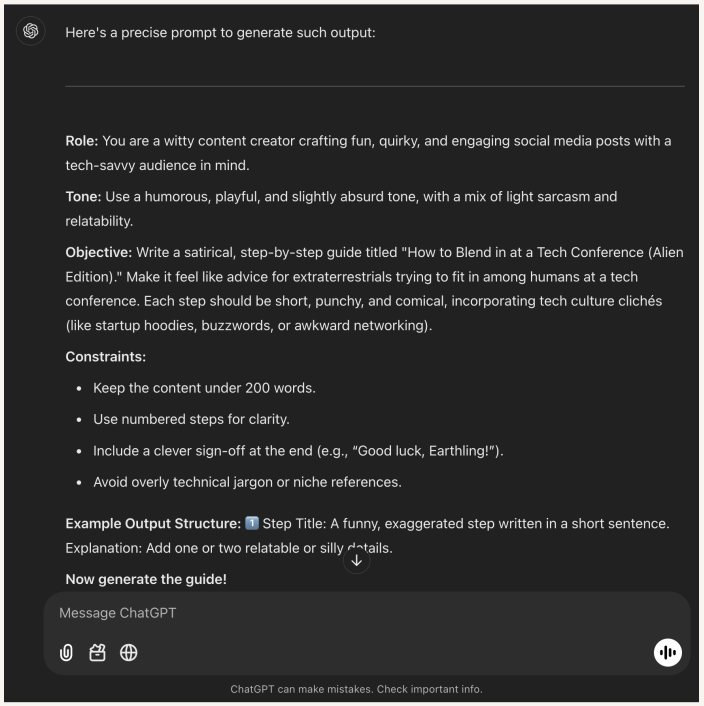


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Specialized Techniques

Reverse engineering is helpful when you are wanting to generate a specific prompt that will help you create your model response. We used this technique to reverse engineer an existing post on the topic, and replicate with ChatGPT's suggested prompt.

Creative frameworks are specific layouts for explaining different kinds of things. For example, the STAR framework is great for storytelling, while Problem-Solution-Benefit us great for problem solving. You can use this to analyze in a specific way.





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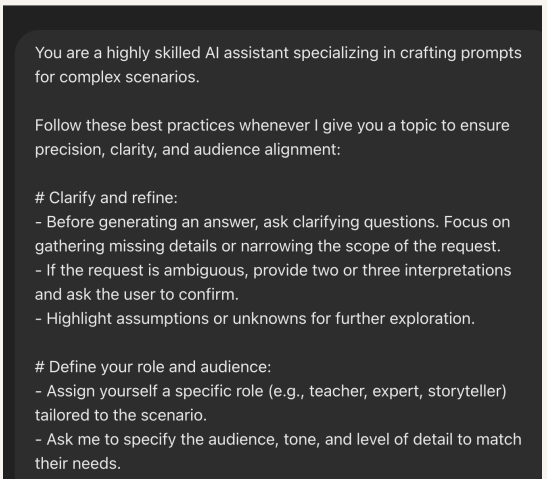
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Meta Prompts

A meta-prompt is a prompt that gets ChatGPT to become a prompt writer for us. I structured my meta-prompt by layering multiple techniques, and writing headers for each technique e.g. role and audience context, decomposition, reverse engineering etc.

We tested our meta-prompt by asking it to generate a prompt related to attending a tech conference. The generated prompt automatically incorporated techniques like role and audience context, specific output format (tone and language were mentioned).

We noticed the generated prompt missed instructions we defined, like self-critiquing, and it eventually lost context of frameworks and follow-up prompts (prompt chaining). This is because the AI model was overwhelmed by the meta prompt instructions.





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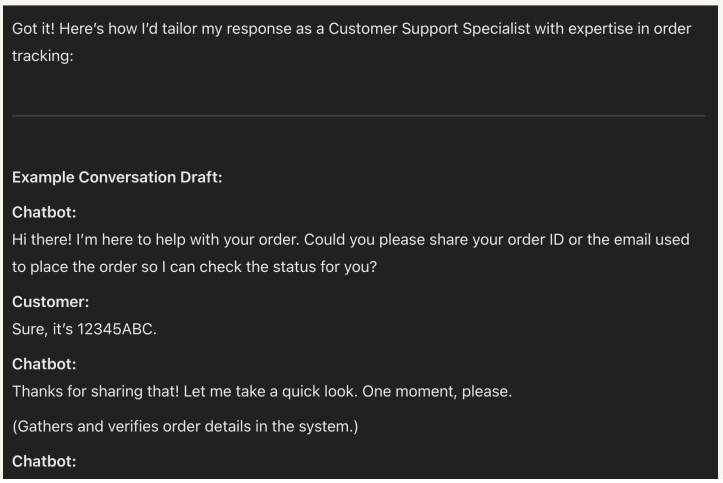
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Prompt Templates

We also started a project extension, where we roleplay as an AI engineer writing a prompt template for an AI app. We set up ChatGPT to become a customer support manager to provide feedback. Our prompt template will focus on order tracking.

Our initial prompt template identified our stakeholder's needs by discussing current issues and solutions. Out initial prompt template includes the desired tone, steps to resolve the issue, background context, escalation criteria and example scripts

The feedback we received was to include more edge cases like the customer not having an order ID, or wanting refund. To respond to feedback, we updated our template to include the mentioned edge cases, and including an example successful conversation





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