



Overcoming ChatGPTs inaccuracies with Pre-Trained AI Prompt Engineering Sequencing Process

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Abstract - In the scientific world, artificial intelligence (AI) has emerged as a paradigm-shifting tool with the promise to speed up and improve human inquiries in ChatGPT. One such AI-based system that is increasingly being discussed and modified to respond to human inquiries is ChatGPT, a well-known language model. OpenAI's ChatGPT, which replicates human interaction by understanding context and producing suitable responses, was trained using enormous volumes of data. It has attracted a lot of interest because of its capacity to efficiently respond to a wide range of human inquiries. Its fluent and thorough responses outperform earlier public chatbots in terms of security and utility. However, there are some issues and restrictions that must be resolved, just like with any technology. This study focuses on the difficulties and restrictions ChatGPT encounters when used with OpenAI. This essay will look at a variety of ChatGPT usage cases. In general, this work seeks to shed light on the difficulties and restrictions of the ChatGPT AI combination. Large language models have been shown useful in a variety of domains. However, a thorough examination of ChatGPT's shortcomings is scarce, thus this study focuses on that issue. The shortcomings of LLMs (Large Language Models), as well as hallucinations, are given and analyzed. These shortcomings include logic, factual errors, math, coding, and bias. Additionally, ChatGPT's drawbacks, restrictions, and social ramifications are discussed. This study aims to help researchers and developers improve chatbots and language models in the future. I'll also look at ChatGPT's restrictions for my research, and I'll break down these difficulties into three groups. With the help of a thorough pre-trained language model, ChatGPT is able to quickly comprehend user inquiries and produce responses that sound natural. ChatGPT can produce new text based on the patterns it has identified from the training data because it has been trained on a sizable corpus of text. Various domains of responses can be It becomes challenging to tell if they were authored by a person or not since they are so convincing. With little to no direction, it can produce complex essays and poems, workable code, and even web pages and charts based on text descriptions. ChatGPT has established itself as a potential rival to the popular Google search engine thanks to its excellent results.

Key Words: artificial intelligence; ChatGPT; Large Language Models, ChatGPT, ChatGPT Failures, Chatbots, Dialogue Systems, Conversational Agents, Question Answering, Natural Language Understanding

1. ChatGPT Failures

In this study, we examined ChatGPT's flaws and emphasized its restrictions. Despite its amazing powers in some tasks, it still needs to be improved to thrive in areas like thinking, solving mathematical problems, minimizing bias, etc. Currently, ChatGPT is still prone to these errors. Due to the ambiguous capabilities of the present technology, it is doubtful whether these constraints can be overcome. Future models of ChatGPT and its dependability are also under scrutiny. Although ChatGPT has been evaluated in-depth in this study, there are still certain issues that require improved AI prompts rather than just input prompting.

Large language models may accurately describe language from a broader perspective, but it is not clear if they can adequately represent the human mind. I used AI prompting to ask the questions as an example. According to our research, ChatGPT appears to perform very well when it comes to responding to questions involving common sense thinking. To corroborate this observation, additional systematic analysis is needed.

- There is no mechanism for ChatGPT to indicate when it is unsure of an answer. Sometimes, it might confidently provide inaccurate answers. Further development is required to enable ChatGPT to convey the degree of trust in its responses.
- The responses from ChatGPT are inconsistent and occasionally contradicting. Its responses can differ when the same question is posed.
- In this analysis, I looked into ChatGPT's shortcomings from a high level.
- Making huge language models open source can help in understanding these models better and addressing their flaws.

Additionally, because the training set is inaccessible, it is challenging to tell whether ChatGPT has seen a specific query before. Using cases that are exceedingly unlikely to have been seen before by the model is one potential approach for testing ChatGPT.

2. Study on Continuous Learning of AI training model with prompts Sequencing Process

Only the quality of the prompts you provide when utilizing AI tools like ChatGPT determines how well they respond and how easy they are to use. In marketing and sales, there are many Done-for-you (DFY) prompts available. These DFY prompts might not quite match the results you anticipate from a chatbot or your user scenarios. The majority of the time, these questions

are short, general-purpose sentences or phrases. In this study, we'll demonstrate how to use ChatGPT to generate the ideal prompt for any task. You'll discover that a solid prompt could include practice questions.

What an Inquiry is. The prompt is a text or image input that instructs the AI model what to do and how to respond. For instance, in the case of a language model like GPT3, the prompt may be a brief passage that serves as the basis for the creation of a lengthier passage. The prompt could indicate the subject matter or voice of the information the AI model should produce.

Instead of requesting ChatGPT to properly compose the email, for instance, we are attempting to write an Outreach email for a social media marketing agency. I'll ask ChatGPT to provide an instruction manual on how to craft the ideal cold outreach email. So, my first prompt is.

2.1. Question: 1st Prompt

How can I write the perfect cold Outreach email to a potential client selling my social media marketing agency which includes marketing on Facebook, Instagram, Ticktock, Twitter Snapchat? What should I include in the email to better convince the potential client?

What an Instruction is. The AI model receives instructions from the prompt, which might be a word or image, about what to do and how to respond. A brief passage of text may serve as the prompt in the case of a language model like GPT3 to generate a longer passage of text. The prompt may outline the topic, tone, or style of the final product that the AI model should produce.

As an illustration, rather than asking ChatGPT to properly compose the email, we are attempting to write an Outreach email for a social media marketing agency. I'll ask ChatGPT to put up a tutorial on how to craft the ideal cold email.

2.2. Question: 2nd Prompt

Can you write me the exact cold Outreach email I can send to a potential client to hire my social media marketing services highlighting that my agency can help them market on Facebook Instagram Twitter Tiktok and Snapchat using bullet points where appropriate and writing in a simple, but convincing and professional tone?

Now that the response has improved in quality, personalization, and detail, all we need to do is replace the text's parenthesized words and phrases with our information to utilize the content that has been generated.

2.3. Another example

Imagine that we wish to write about a specific marketing activity, such as sales marketing, on a specific website, such as jvzoo.com. We would use a somewhat different structure for our prompts if we were to prepare the chatGPT AI model before beginning the actual conversation. We are interested in producing a report for a giveaway that explains how new

affiliates can get started and flourish on the jvzoo.com network. Therefore, we would start by inquiring about chatGPT's familiarity with Jvzoo and affiliate marketing. So, here is how the first prompt would begin.

2.4. Question: 1st prompt

Do you know what affiliate marketing is?

then We will ask about the jvzoo platform

2.5. Question: 2nd prompt

How about the jvzoocom platform? Do you know what it is?

The third prompt is now available: Please explain how to be a successful new affiliate marketer on the jvzoo.com network.

2.6. Question: 3rd prompt

What steps should a new affiliate marketer who recently signed up on the jvzoo.com platform do to succeed? List all the steps a new affiliate marketer should take on this platform in bullet points, and explain each step, in detail.

2.7. Question 4th Prompt

The next assignment is to design a table of contents for a book that instructs a new affiliate how to begin and succeed on the jvzoo.com platform using the methods you just explained. Please put the title of the book in clear, understandable terms and divide the table of contents into chapters.

2.8. Question 5th Prompt

Therefore, once it has finished creating the report's table of contents, we can simply instruct it to create Chapter 1 and Chapter 2 when it is finished, and so on until it has finished writing all of the book's chapters. At that point, we can copy everything out and format it into a finished book.

We have completed the two examples from them. As you can see, the prompts we used are now longer, better, and more specific. In some instances, like in the second example, we had to ask ChatGPT if it understood our intended topic before instructing it to produce the text. In the second example, we can exclude the first two prompts, which were just intended to prepare the model and get it ready for a higher-quality response, if we are managing our tokens, especially for those on ChatGPT Plus subscriptions. In order to get ChatGPT to produce the greatest possible response for us, we must carefully develop the correct and high-quality prompts for every activity. In our AI-assisted content production efforts, we can now make better prompts.

3. Based on the study and the above examples and proposing the AI Prompt Engineering and Proprietary Continuous Learning AI Training Model

Examples of Continuous Learning Text, graphics, video, and audio are just a few of the outputs that generative AI can

produce. The models are still being developed as ChatGPT continues to learn from user feedback (as shown in the example below). For instance, GPT3.5, the foundation upon which ChatGPT is based, passed the bar in the 10th percentile, whereas GPT4.0, the revised version, now passes in the 90th percentile.

4. Continuous Learning AI Training Model with Prompts Sequencing Process

Step 1: Continuous Training [Fig.1]

Aside from the most current data collected after 2022, ChatGPT learns from any information found on the internet, including Wikipedia, online pages, and other sources.

Step 2: User input prompt

Enter what you wish to know or have done for you in the same way as you would in Google Search. How do I cook pancakes, for instance? Write a poem in the style of Woody Allen for Valentine's Day.

Step 3: GPT output

GPT will respond to your inquiry or request. For instance, "First you put 100g of flour..." Roses are red, etc.

Step 4: User feedback

Give a thumbs up or down to rate the output, or specify or alter the prompt. For instance, "How can I cook pancakes for a mom watching her weight when there are no eggs in the fridge?"

Step 5: GPT updated output

Hopefully, GPT will give you a response that is more in line with what you want.

Step 6: User edit/judgment

Analyze the content's quality (text, image, etc.) and, if necessary, edit the question once more.

It is suggested that the ChatGPT AI model be continuously pre-trained using the AI Prompts Sequencing Process in order to reduce failures, errors, and restrictions in ChatGPT's output.

5. Conclusions

To sum up, ChatGPT can help in a wide range of new study areas, and we are just beginning to explore the extent of its potential applications. I have no doubt that artificial intelligence (AI) tools will fundamentally alter every industry, including science. However, difficulties with LLMs and hallucinations present numerous difficulties. ChatGPT has been constrained thus far by computational limitations. All those constraints could result in misunderstandings or incorrect interpretations. Researchers are working hard to overcome these issues and enhance the model's accuracy and dependability. The creation and effectiveness of language models like ChatGPT have been significantly impacted by new technologies and developments in AI.

For instance, modern AI methods like deep learning and neural networks have made it possible to develop more accurate and sophisticated language models that can handle enormous amounts of data and learn from it. Furthermore, the emergence

of big data and cloud computing has created new opportunities for applications like chatbots, virtual assistants, and language translation by enabling the training and execution of language models at scale. Additionally, pre-trained language models like GPT-3 have lowered the amount of data and computing power needed to train new models, making it simpler for academics and developers to design their own language models. For instance, working with linguists can help to improve language models by incorporating a deeper comprehension of the subtleties of human communication and language. Working with computer scientists can result in the creation of more effective and efficient training and running algorithms for language models.

The two instances below exemplify what we refer to as the "Prompts Sequencing Process," which is a revolutionary and proprietary continuous training AI model that is proposed. a series of prompts designed to produce the best outcomes currently possible from AI, starting with an initial prompt and progressing logically through a set of following prompts. So thorough prompt engineering is required to get an ideal result. Users will be happier with their interactions with AI models if the prompts are more pertinent and meaningful. For individuals who use AI models, this will result in a more gratifying experience.

REFERENCES

Journal Papers

1. ChatGPT Sprints to One Million Users. Available online: <https://www.statista.com/chart/29174/time-to-one-million-users/> (accessed on 10 March 2023).
2. ChatGPT Reaches 100 Million Users Two Months after Launch. Available online: <https://www.theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app> (accessed on 10 March 2023).
3. Turing, A.M. Computing Machinery and Intelligence. *Mind* 1950, 236, 433–460. <https://doi.org/10.1093/mind/LIX.236.433>
4. Thorp, H.H. ChatGPT Is Fun, but Not an Author. *Science* 2023, 379, 313. <https://doi.org/10.1126/science.adg7879>
5. Kirmani, A.R. Artificial Intelligence-Enabled Science Poetry. *ACS Energy Lett.* 2022, 8, 574–576. <https://doi.org/10.1021/acsenenergylett.2c02758>
6. Grimaldi, G.; Ehrler, B. AI et al.: Machines Are About to Change Scientific Publishing Forever. *ACS Energy Lett.* 2023, 8, 878–880.
7. Buriak, J.M.; Akinwande, D.; Artzi, N.; Jeffrey Brinker, C.; Burrows, C.; Chan, W.C.W.; Chen, C.; Chen, X.; Chhowalla, M.; Chi, L.; et al. Best Practices for Using AI When Writing Scientific Manuscripts. *ACS Nano* 2023, 17, 4091–4093.
8. Frieder, S.; Pinchetti, L.; Griffiths, R.; Salvatori, T.; Lukaszewicz, T.; Petersen, P.C.; Chevalier, A.; Berner, J. Mathematical Capabilities of ChatGPT. *arXiv* 2023, arXiv:2301.13867.

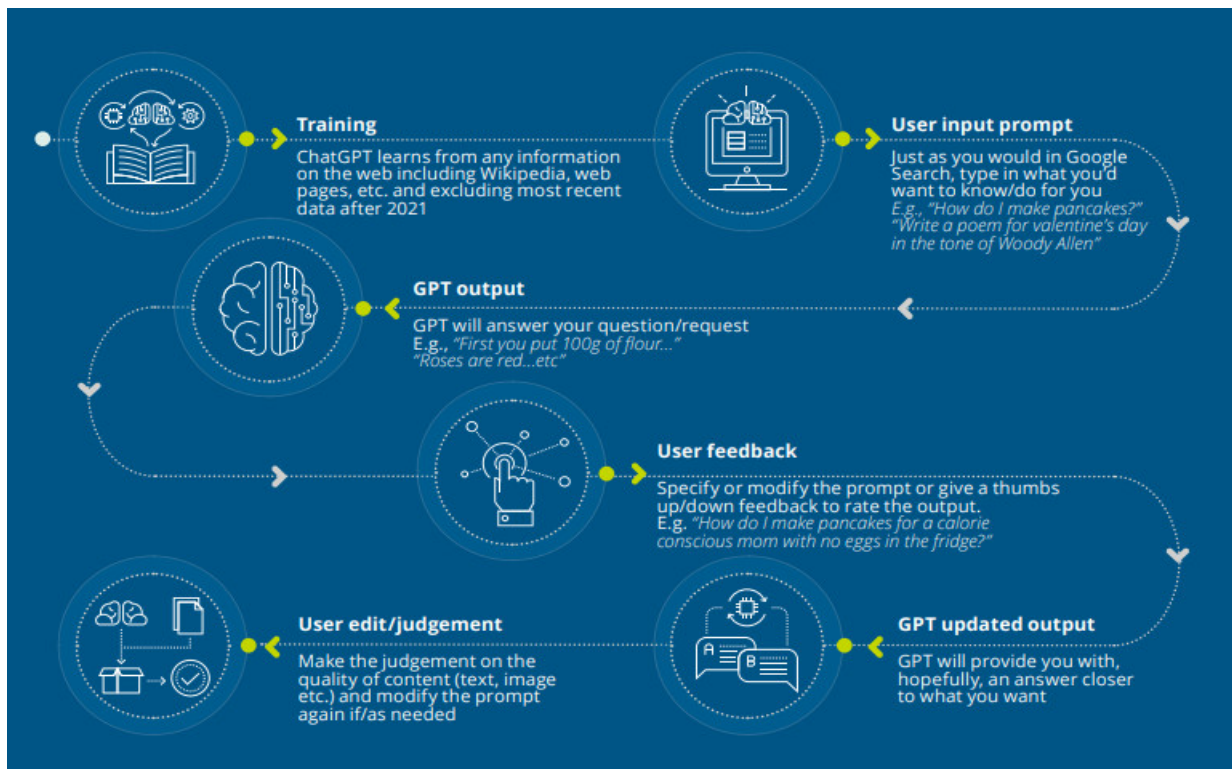


Fig. 1 Prompts Sequencing Process