

## Researcher suggests how to effectively utilize large language models

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Nowadays, large language models (LLMs) are extensively applied in



various situations, from writing to solving complex problems. However, how to effectively interact with artificial intelligence and explore its potential requires further attention.

Recently, Researcher Lin Zhicheng from the Department of Psychology, University of Science and Technology of China (USTC) proposed practical strategies and guidelines to help us better understand and utilize LLMs. He emphasized that well-crafted prompts can enhance the accuracy and relevance of responses, preventing poor performance due to low-quality instructions. This commentary was published in *Nature Human Behavior* on 4 March.

Trained with <u>deep learning</u>, LLMs simulate neural networks, with a distinctive feature of self-attention. LLMs are able to understand human language, thus being more <u>user-friendly</u>. Effective engagement with LLMs adds to the accuracy and relevance of the outputs, while reversely, poorly structured prompts can lead to inadequate answers. Though interacting with LLMs is seemingly simple, Lin pointed out that designing effective prompts for LLMs is challenging.

The commentary highlighted the importance of "prompt engineering," a technique to optimize LLMs outputs through accurate input control. Lin proposed a series of strategies, including giving explicit instructions, adding relevant context, asking for multiple options and so on. These methods can help lead to ideal answers and reduce the compounding effect of errors.

This commentary serves as a practical guide for interactions with LLMs, helping users achieve ideal outcomes from LLMs and adding to our understanding of their potential. The strategies and opinions can provide a valuable reference for the users who are expecting enhanced efficiency in the interaction with LLMs.



**More information:** Zhicheng Lin, How to write effective prompts for large language models, *Nature Human Behaviour* (2024). DOI: 10.1038/s41562-024-01847-2

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