

Advanced Prompt Engineering Techniques

Prompting refers to making requests to a data model for acquiring the required response.



Chat GPT, Gemini, Copilot are some examples of **language models**.

A data model views each word as a set of tokens.

Try: prompting to reverse a word – the GPT will fail until you ask it to split the word into characters and then reverse the word. This is a simple example which proves that language models give better responses, when clear instructions, guidance and references are provided.

It's important that you give the clear context as a file or reference for the model to start with for better results.

Majorly 2 prompting methods:

Zero Shot Prompting

No reference or example provided to model.

Directly prompt with question you need solution for.

E.g.: As prompt, giving a set of comments and then asking a question.

Fairly long responses.

Few Shot Prompting

Provide the model with references or data to learn and look for patterns. Response will be based on the data provided as reference.

Used when AI system response should be always consistent.

Allows to guide the system to match patterns.

E.g.: Suppose In pizza delivery, the ai chat system should always be consistent with the voice & tone, give the pizza parlor name in response always. Here few shot is used. Prompt the system using a few Q/A showing the system the response pattern (here including pizza parlor name in response) and then ask your question. The system will follow the pattern.

*Shots refer to how many examples provided while prompting to the model

Chain of thought Prompting

Showing what to do through examples – it's like building a thought process flow for the model to follow.

Types: **few shot** (providing with few Q/A examples), **zero-plus-few shot** (“*Let’s think step by step*” with Q/A examples), **zero shot** (system will go by them creating its own process flow and walk us through that)

“Take a deep breath & go step by step” --> Provides in-depth breakdown of answers

Generated knowledge Prompting

Creating alternative database as reference for the model using a single prompt in case provided reference data is insufficient.

Give reference example as input & Knowledge to prompt what your question or statement is. Useful when starting to train a system.

Linear thinking --> Refers to step by step thinking approach.

Tree of thought

Ask a series of experts --> Get their best inputs --> Choose the best path --> Return output

Helpful to solve complex tasks as single prompting attempt might return incorrect solution. So, within the prompt itself, you can ask multiple experts and get its input as if asking multiple times for better correlation.

Directional Stimulus Prompting

E.g. Give test input to ask 2-3 lines summary & give a hint on what solution you are seeking

Chain of density Prompting

E.g. Summarize huge text and get summary. Once summarized, make the model ask itself if all the main points are covered? Are any main points missing? If missed, go through the data again and return summary. Continue this until all points are covered.

If the reference data/ file / text is huge, it's better to chunk to smaller parts and then input the data as the model will not consider most of the data and will chip it off.

***** THE END *****