**Be mindful with several types of hallucinations:**

* **Lies:** Language models might generate text that is literally untrue and has no factual foundations.
* **Nonsensical:** LLMs produce irrelevant or unasked details that don’t correlate to the prompts.
* **Source conflation:** The language model attempts to combine information extracted from different sources, resulting in factual contradictions.

Prompt Engineering:

* LLMs such as GPT – 3, are tuned to follow instructions.
* **Zero Short Learning** - Give One Line instruction as per the use case
* **Few Short Learning** - Model will try to learn through few examples

If still model isn't enough to do well at the task. From here it is recommended to start thinking about fine-tuning your models or experimenting with more advanced prompting techniques.

* **Chain of Thoughts** - You can combine it with few-shot prompting to get better results on more complex tasks that require reasoning before responding.
  + Few Shot + COT (Example: <https://www.promptingguide.ai/techniques/cot>)
  + Zero Shot + COT (Example: <https://www.promptingguide.ai/techniques/cot>)
  + Automatic COT (Source:  [Zhang et al. (2022)(opens in a new tab)](https://arxiv.org/abs/2210.03493))

**Auto-CoT consists of two main stages:**

Stage 1): question clustering: partition questions of a given dataset into a few clusters

Stage 2): demonstration sampling: select a representative question from each cluster and generate its reasoning chain using Zero-Shot-CoT with simple heuristics

* **Self-Consistency:** 
  + <https://www.promptingguide.ai/techniques/consistency>
  + Zero Shot - What is 10 + 12?
  + Chain of Thoughts - I am thinking of a number. I started with 10. I added 12 to it. What is the number?
    - 10 + 12 = 22
  + This is the correct answer, but the naive greedy decoding strategy did not consider any other possible reasoning paths. For example, the model could have reasoned as follows:
    - 10 is even. 12 is even. The sum of two even numbers is always even. Therefore, the answer must be even.
  + Self-consistency would consider both of these reasoning paths, and it would select the most consistent answer, which is 22

**General Knowledge Prompting**

* + - <https://www.promptingguide.ai/techniques/knowledge>