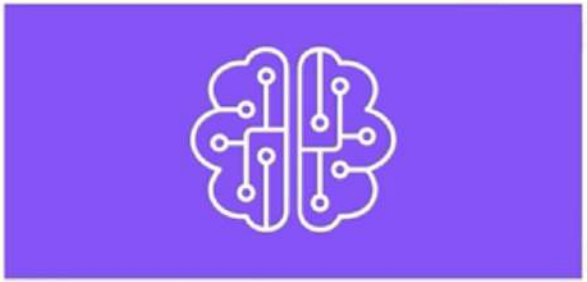
Skills Network

Introduction to In-context Learning

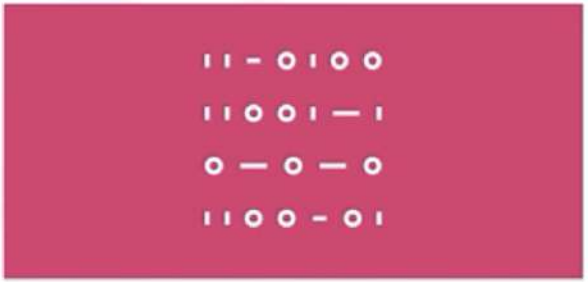
IBM

Introduction to In-context Learning

What you will learn



Describe in-context learning



Explain the fundamentals of prompt engineering

In-context learning

- Method of prompt engineering
- Demonstrations of the task provided to the LLM as part of the prompt
- Doesn’t require additional training
- New task learned from a small set of examples presented within the context at inference time

In-context learning

Advantages:

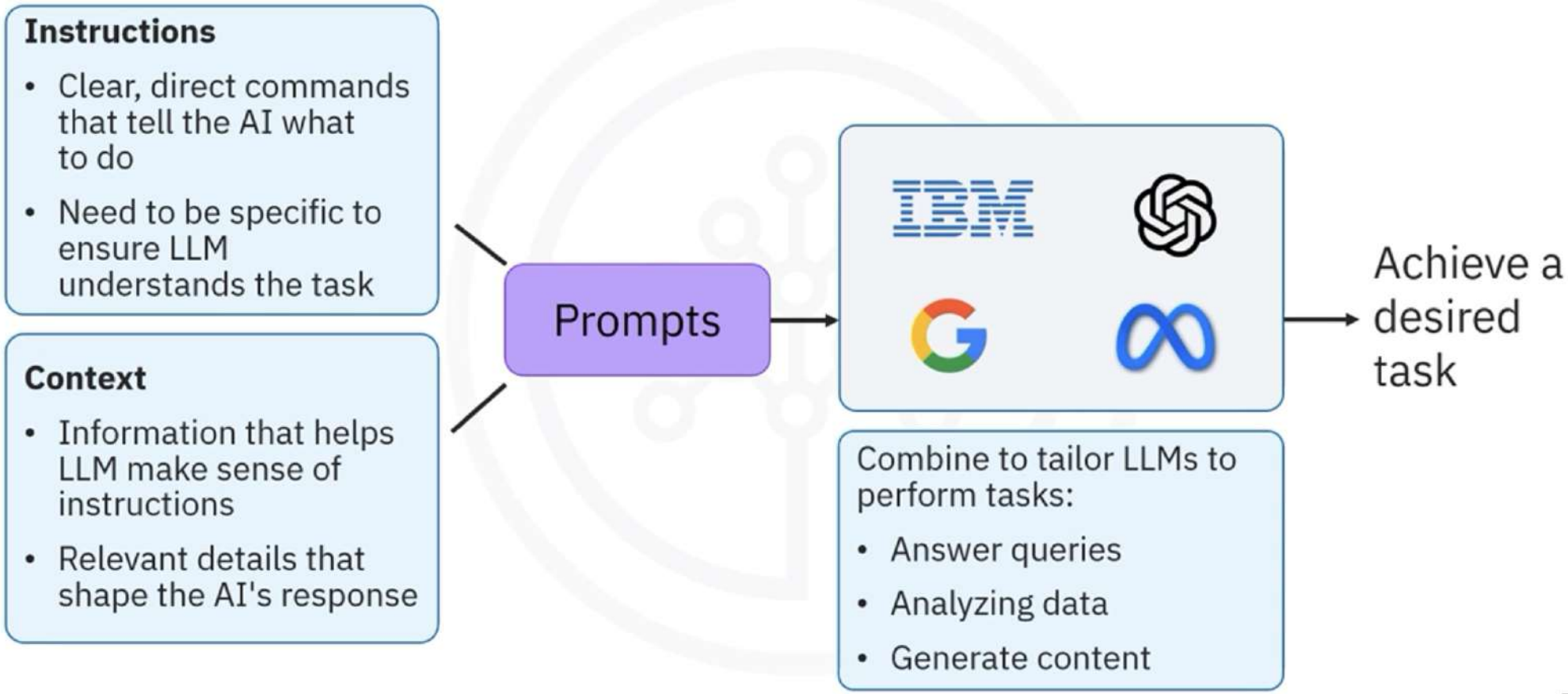
- No fine-tuning needed
- Reduces time and resource consumption
- Improves performance

Disadvantages:

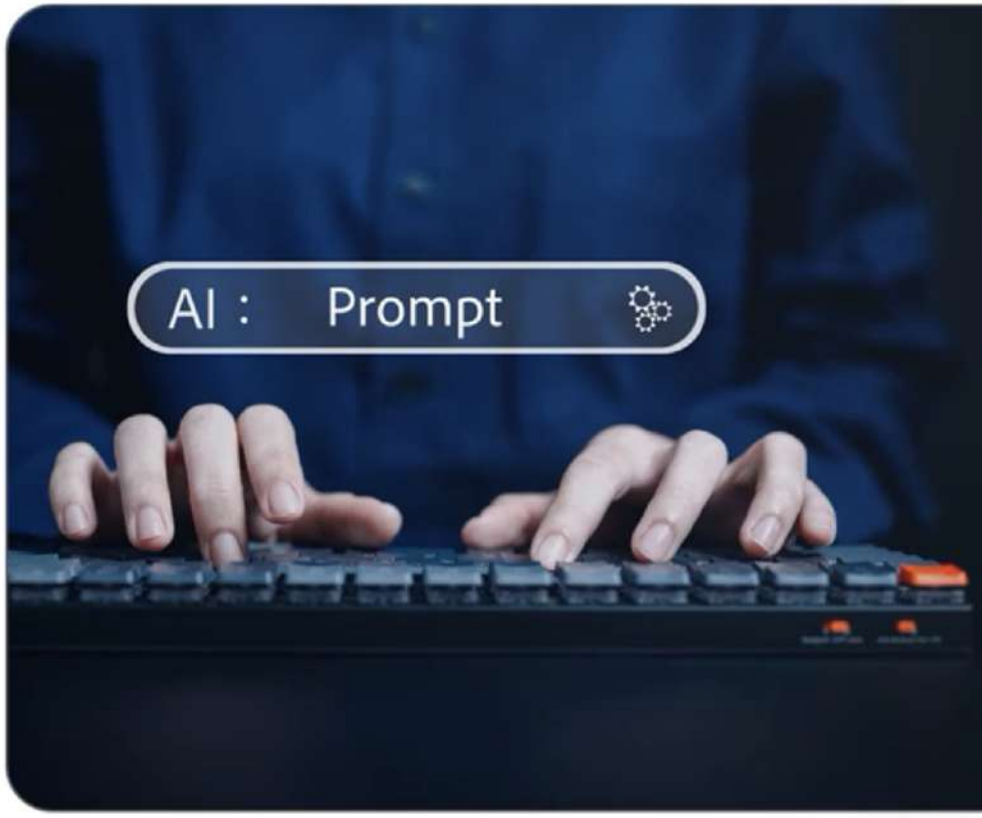
- Limited to what can fit in-context
- Complex tasks need gradient steps
- Involves adjustments based on error gradients

Introduction to prompt engineering

What are prompts?



What is prompt engineering?



- Designing and refining prompts to communicate with AI systems (LLMs)
- Involves crafting questions, commands, or statements to elicit accurate, relevant, and contextually appropriate responses
- Fundamental to customer service and computational linguistics

Why prompt engineering?

Directly influences the effectiveness and accuracy of LLMs

Ensures LLMs generate relevant, precise, and contextually appropriate responses

Meets user needs through clearer prompts and reduced misunderstanding

Eliminates the need for continual fine-tuning

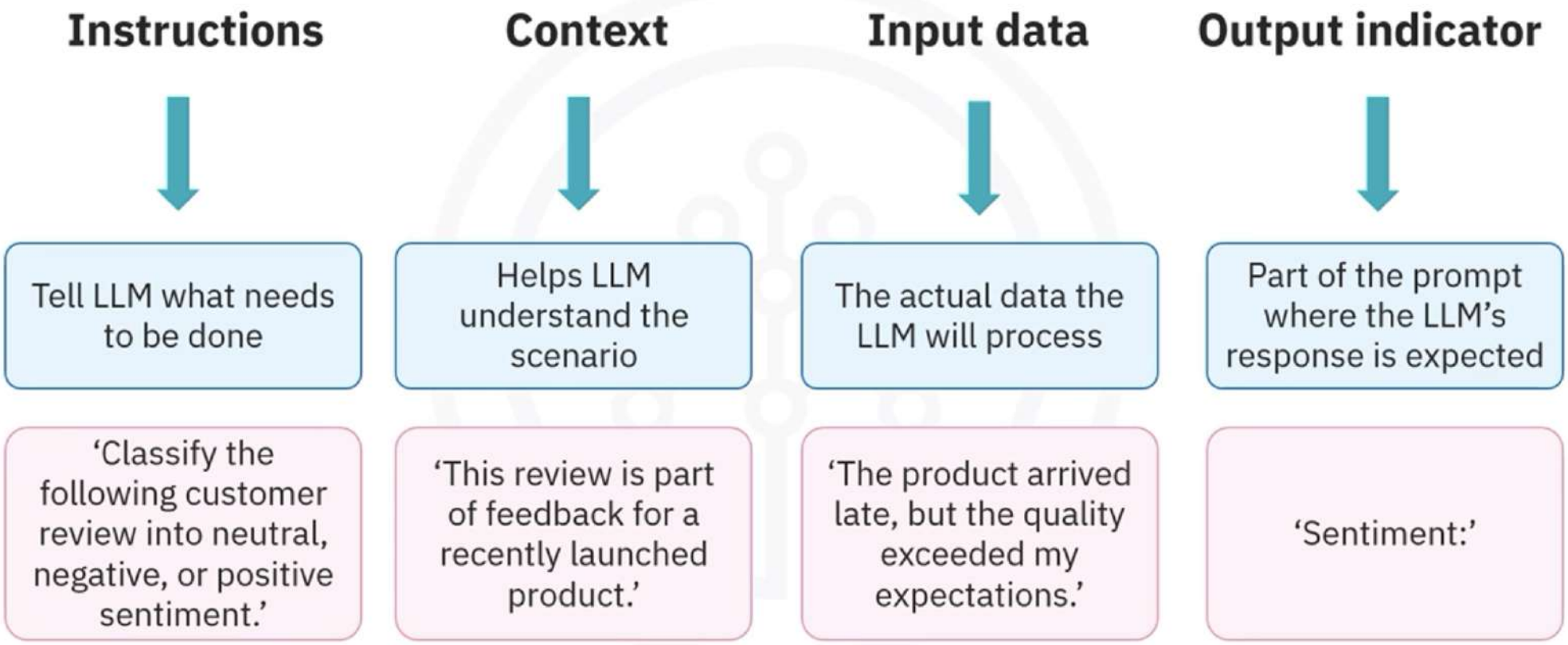
First basic prompt

The wind is

```
Blowing gently through the trees,
whispering secrets and stories to anyone
who cares to listen.
```

Source: Response generated from GPT-3.5

Elements of a prompt



Recap

- In-context learning: Method of prompt engineering where demonstrations of the task are provided to the model
- Prompts are inputs given to an LLM, to guide it toward performing a specific task
- Prompt engineering: Process to design and refine the questions, commands, or statements to get relevant and accurate responses
- Advantages of prompt engineering :
    - Boosts the effectiveness and accuracy of LLMs
    - Ensures relevant responses
    - Facilitates meeting user expectations
    - Eliminates the need for continual fine-tuning

Recap

- In-context learning: Method of prompt engineering where demonstrations of the task are provided to the model
- Prompts are inputs given to an LLM, to guide it toward performing a specific task
- Prompt engineering: Process to design and refine the questions, commands, or statements to get relevant and accurate responses
- Advantages of prompt engineering :
    - Boosts the effectiveness and accuracy of LLMs
    - Ensures relevant responses
    - Facilitates meeting user expectations
    - Eliminates the need for continual fine-tuning
- Key prompt elements: Instructions, context, input data, and output indicator