

## Tutorial 3: LLMs and Prompt Engineering for Software Engineers

Friday Mar 1st, 2024

TA: Nikta Gohari Sadr

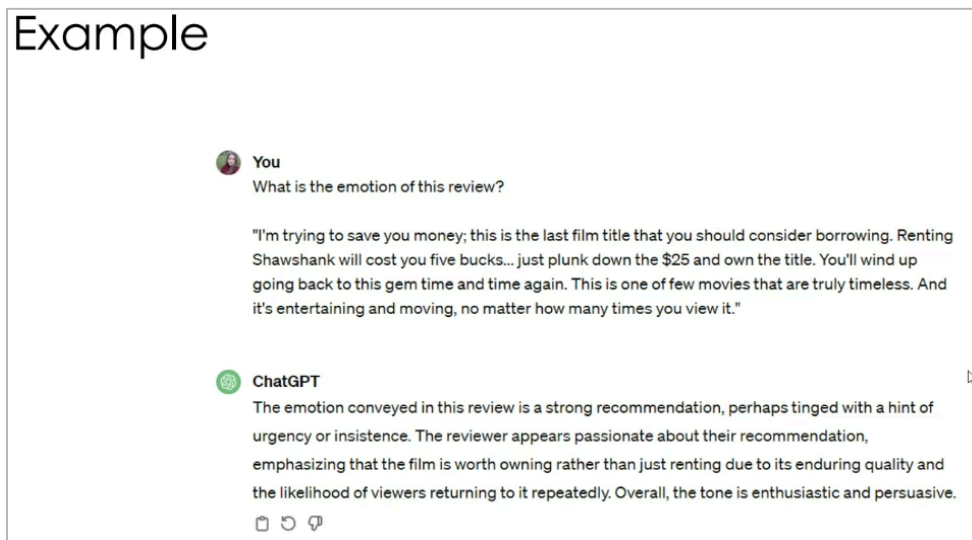
LLMs have many applications in multiple contexts.

Prompts - involves instructions and context passed to a language model to achieve a task

### *Prompt Engineering Process*

- Define your objective
- Draft prompts
- Test and iterate
- Assess results and refine
- Automate and scale

### Example



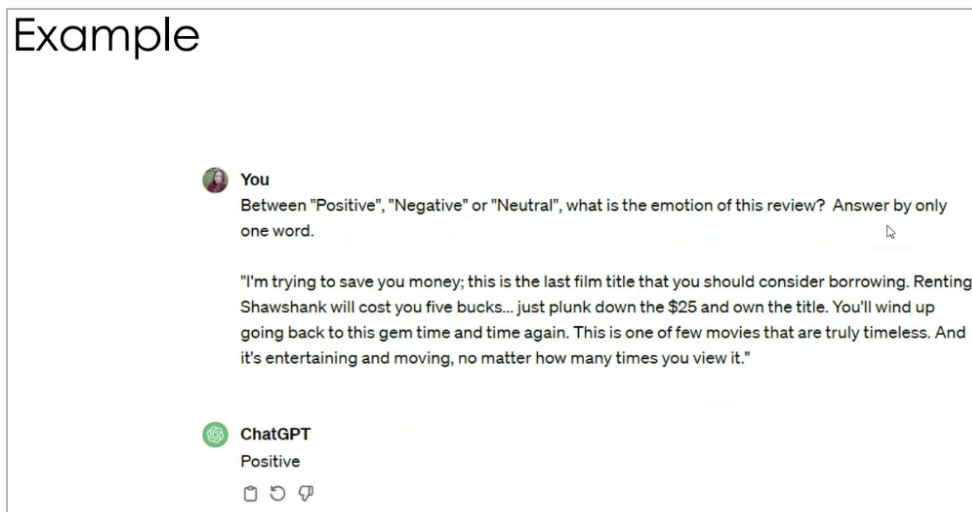
**You**  
What is the emotion of this review?

"I'm trying to save you money; this is the last film title that you should consider borrowing. Renting Shawshank will cost you five bucks... just plunk down the \$25 and own the title. You'll wind up going back to this gem time and time again. This is one of few movies that are truly timeless. And it's entertaining and moving, no matter how many times you view it."

**ChatGPT**  
The emotion conveyed in this review is a strong recommendation, perhaps tinged with a hint of urgency or insistence. The reviewer appears passionate about their recommendation, emphasizing that the film is worth owning rather than just renting due to its enduring quality and the likelihood of viewers returning to it repeatedly. Overall, the tone is enthusiastic and persuasive.

Prompts have to become more specific to get better results.

### Example



**You**  
Between "Positive", "Negative" or "Neutral", what is the emotion of this review? Answer by only one word.

"I'm trying to save you money; this is the last film title that you should consider borrowing. Renting Shawshank will cost you five bucks... just plunk down the \$25 and own the title. You'll wind up going back to this gem time and time again. This is one of few movies that are truly timeless. And it's entertaining and moving, no matter how many times you view it."

**ChatGPT**  
Positive

Your prompt and the responses are costly, you get charges for length of prompt and answer.

### *Elements of a Prompt*

- Instructions
- Context
- Input data
- Output indicator

Have to be extremely specific, and give examples to a model, so that it will think step-by-step in the way you are anticipating. "Let's think step by step" is a phrase specifically used in MANY prompts for this reason.

X-shot prompts → X examples before asking your question

The AI hiring tool implemented by Amazon was shut down because it was discriminating against women.

Google's Gemini LLM will form bias, no matter how you push it.

### Takeaways:

Nothing really for our project, but it was cool!