LLM Prompts Engineering

General Use cases - Prompts Best Practices

Prompts Wording

Instead of…

Create a post for twitter

Do

Create a post for twitter for announcing about a new product I want to launch and in a special price only for the coming week

Using Delimiters

Given the paragraph delimited by triple quotes, identify all questions in it
"""

The Australian real estate market has witnessed a roller-coaster of dynamics over the past few decades. Major cities like Sydney and Melbourne have seen skyrocketing house prices, creating barriers for first-time homebuyers. Factors such as foreign investment, a strong economy, and population growth have driven demand. However, in recent years, concerns about housing affordability have been at the forefront of political debates. With increasing urbanization, is there a potential for market saturation in metropolitan areas? Moreover, how will the market respond to changing climate patterns, given Australia's susceptibility to bushfires and floods? The intersection of environmental factors and housing policies presents a unique challenge for the Australian property market.
"""

Specify Steps

Given the following paragraph delimited by triple quotes
"""

The Australian real estate market has witnessed a roller-coaster of dynamics over the past few decades. Major cities like Sydney and Melbourne have seen skyrocketing house prices, creating barriers for first-time homebuyers. Factors such as foreign investment, a strong economy, and population growth have driven demand. However, in recent years, concerns about housing affordability have been at the forefront of political debates. With increasing urbanization, is there a potential for market saturation in metropolitan areas? Moreover, how will the market respond to changing climate patterns, given Australia's susceptibility to bushfires and floods? The intersection of environmental factors and housing policies presents a unique challenge for the Australian property market.
"""

Perform the following actions
- Summarize the paragraph into 1 sentence
- Translate the summary to French
- Identify named entities in the French summary
- Output a markdown table to show those named entities

Roles & Goals

You are a tourists guide and your goal is to plan a trip to Italy.

Recommend me about 10 places to visit.

Negative / Positive

You're a tourists guide and your goal is to plan a trip to Italy.

Make a list of 10 places to visit.

Rome is a must

Don't include places with entrance cost higher than 20 Euro

General Use cases - Prompts Strategies

Input/Output

Given the following paragraph delimited by triple quotes
"""

The Australian real estate market has witnessed a roller-coaster of dynamics over the past few decades. Major cities like Sydney and Melbourne have seen skyrocketing house prices, creating barriers for first-time homebuyers. Factors such as foreign investment, a strong economy, and population growth have driven demand. However, in recent years, concerns about housing affordability have been at the forefront of political debates. With increasing urbanization, is there a potential for market saturation in metropolitan areas? Moreover, how will the market respond to changing climate patterns, given Australia's susceptibility to bushfires and floods? The intersection of environmental factors and housing policies presents a unique challenge for the Australian property market.
"""

Give me a short summary and a 3 bullets list of the most important keynotes

X-Shot Prompting

Zero Shot Prompting

Generate 10 possible names for my dog

One Shot Prompting

Generate 10 possible names for my dog

A name that I like is Banana

Few Shot Prompting

Generate 10 possible names for my dog

Dog names that I like includes:

- Banana
- Kiwi
- Pineapple
- Coconut

Self Criticism

Please re-read your above response. Do you see any issues or mistakes with your response? If so, please identify these issues or mistakes and make the necessary edits.

Iterative

<u>Up Front Iterations:</u>

I want you to help me create a great prompt so that you can provide the best output for me. I'd like you to execute the following steps:

1. Ask me what the topic of the prompt is.

2. After I submit my prompt, generate 3 sections: (a) your revised prompt; (b) suggestions on how to improve the prompt; (c) clarifying questions.

3. Continue this iterative process, by asking me for additional input, until I am satisfied with the prompt.

4. After three iterations, ask me whether you should execute the prompt or whether we should continue iterating. Do this for every iteration after the third iteration.

<u>On Going Iterations:</u>

I am writing a book on time travel theories. I have not settled on a specific topic. Generate 5 specific topic suggestions for such a book. For each suggestion, provide a title and one paragraph of description of what the book would cover

[Suggested topics have been generated]

I will write the book you suggested. Generate a chapter outline for this book, including sections and subsections.

[Outline, sections and subsections have been generated generated]

Let's flesh out the introduction. Generate a two paragraph summary of what each of the chapter's sections will cover

Chain-of-though

1. Hierarchical Prompting:

Start general, then dive into specifics. For instance:

- "What are cultural norms?"

- "How are cultural norms in India different from France?"

- "What gestures are considered rude in France but okay in India?"

2. Thought Process Prompting:

Ask it to write out it's thought process, try adding these to the end of your prompts:

- "…, think step by step"

- "…, thinking aloud"

- "…, explain your thoughts"

3. Sequential Prompting:

Ask for a sequence or progression.

- "How have British cultural norms evolved over the last century?"

Example for real-world prompt

Act as a career advisor (**Role**), and your goal is to explore job opportunities in show biz with me based on my skills and experience (**Goal**)

Ask me relevant questions to determine the necessary qualifications or steps to pursue these careers. Do focus on my professional background (**Positive**) but Don't ask me about my personal life.(**Negative**)
When you ask me about my proffesional experience: (**steps**)
- Start with asking where have I studied, like schools, universities and professional tracks (**few shots**)
- Ask me for a summary of all my previous jobs
- Try to match each job opportuity I might fit to the relevant job role

Write all job opportunities as a bullets list (**input/output**)

[result]

Is that all? Can you of more job opportunitues? (**iterative + criticism**)

[result]

Plase order all those jobs by their predicted income (**iterative + output**)

Development Use Cases - Prompts Best Practices

Wording

Create a function that returns a number

Create a function that receives 2 numbers and returns their sum

Using Delimiters

Find possible threats in the following code delimited by triple quotes:

```
const express = require('express');
const personsBLL = require('../BLL/personsBLL');

const router = express.Router();
"""
router.route('/').get(async (req, res) => {
  try {
    const persons = await personsBLL.getAllPersons();
    res.json(persons); // 200 - OK
  } catch (error) {
    res.json('There was an error!');
  }
});
"""
router.route('/:id').get(async (req, res) => {
  const { id } = req.params;
  cnst person = await personsBLL.getPersonById(id);
  re's.json(person);
});
```

Specify Steps

Write a function in java script that receives an array of Person objects.
Each Person object stores name and age. The function return a number.
Perform the following actions:

- Get only the names of all Person objects in the array
- Get the names lengths
- Sum those lengths
- Return the total from the function

Roles & Goals

You are a Python developer and tour goal is to write a function that removes duplications from a CSV file. Write an efficient way to do that.

Negative / Positive

Create a class in Java called Student with data members for storing name and age.

The class MUST has a constructor and Must not stores names starts with digits.

Development Use Cases - Prompts Strategies

Input/Output

Translate the following Python code to Java :

```python
def find_bigger(num1,num2):
    if num1 > num2:
        return num1
    else:
        return num2
```

X-Shot Prompting

Zero Shot

Create a struct in C++

One Shot

Create a struct in C++

with at least 5 data members , for example: name

Few Shots

Create a struct in C++

with at least 5 data members , for example: name, age, city etc

Chain-Of-Thought

Write a Python function that checks if a given string is a palindrome (reads the same backward as forward).

- First, define a function called "is_palindrome" that takes a string as input.
- Next, convert the string to lowercase to avoid case sensitivity.
- Then, iterate through the string and compare the characters at the beginning and end.
- If they match, move inwards one character at a time and repeat the comparison.
- If all characters match their counterparts, return True (the string is a palindrome). Otherwise, return False.

Self Criticism

Step 1:

Create a class in Java called Student with data members for storing name and age.

Step 2:

Is that the best solution you can come up with? Is there a way to make it more efficient?

Iterative Prompting

- Create a class in C# called Person with data members for storing name and age
- Make data members names start with underline
- Verify the stored names are no longer than 4 chars
- Add a function that returns the name's length
- Add Unit test to the class
- Add documentation to the class

Example for real-world prompt

You are a very skilled Python developer (Role) with vast experience with writing clean and efficient code. Your goal us to write a REST API based web server (Goal). You must use functional programming (positive) as long as you can and try to avoid using classes (negative), and using ORM (Positive) for access data base.

Implementing the data access layer includes (Specify steps)

- Creating proper data base schemas
- Create a global connection to the data base. All connections details like user name, password, server host address etc (few shots prompting) must be declared in a setting file
- Use transactions for every CRUD operations

Implement all Business layer as high order functions and create all files in dedicated folders (Input/Output)

[Generated code…]

The BL layer is not looks quire secured for me. Can you make it more secured? Can you of more job opportunitues? (**iterative + criticism**)

[Generated code…]

Plase convert all BL functions to anonymous functions (**iterative + output**)