

Tips and Tricks to Using Large Language Models

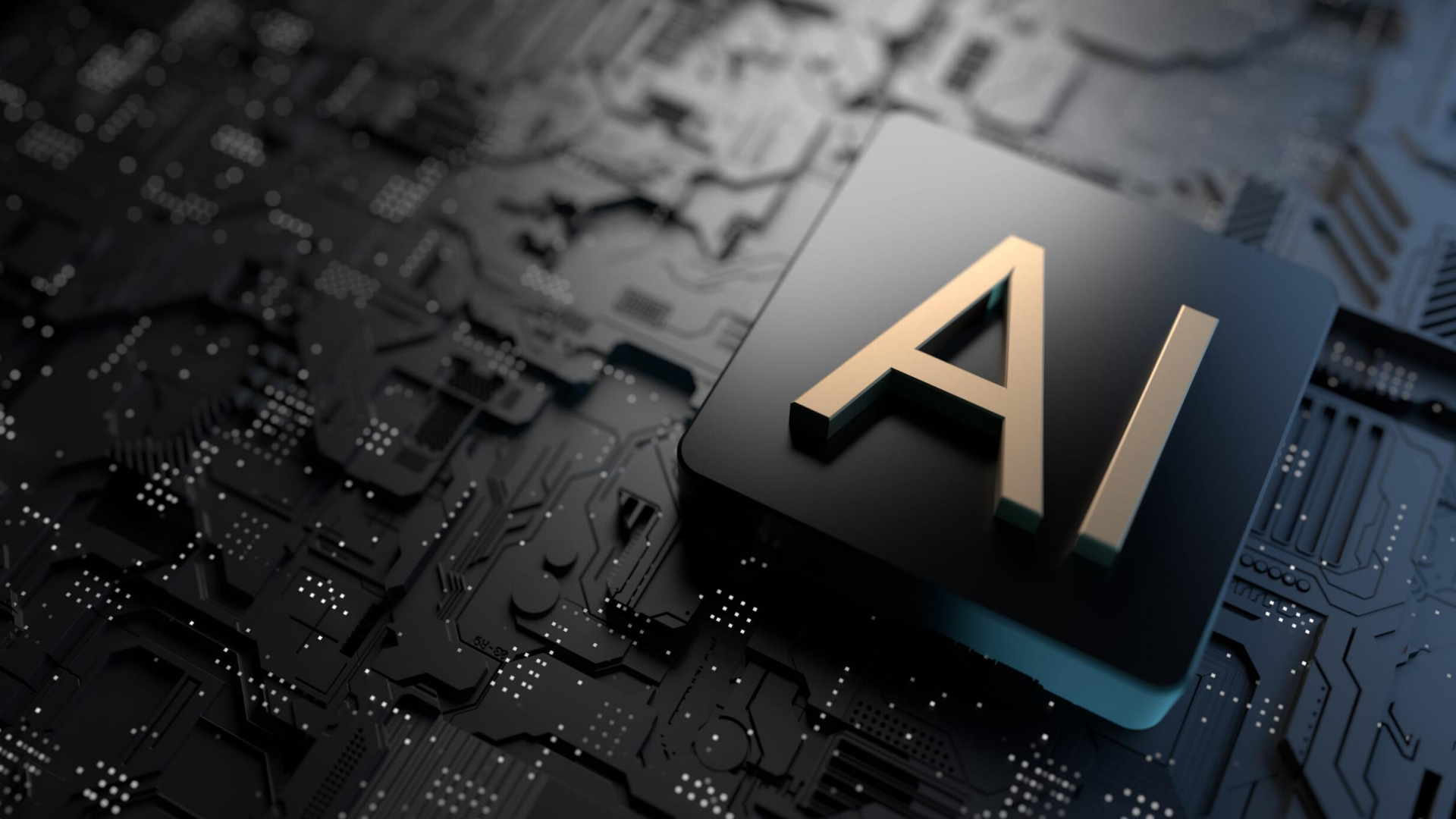
SoHye Park – AVP, Applied AI

Presenter



SoHye Park — Applied AI Scientist, RNL

5 years of experience in data science, data analytics, and linguistics research. MA in Applied Linguistics from Ewha University, MS in Quantitative Methodology from University of Maryland, Ph.D. candidate in Applied Linguistics at University of Maryland.



”If photography is allowed to supplement art in some of its functions, it will soon have supplemented or **corrupted it** all together...”

“The camera can reproduce the features of a man’s face or any other object, and that is all.”

“From today, painting is dead.”

“The invention promises a complete revolution in art.”

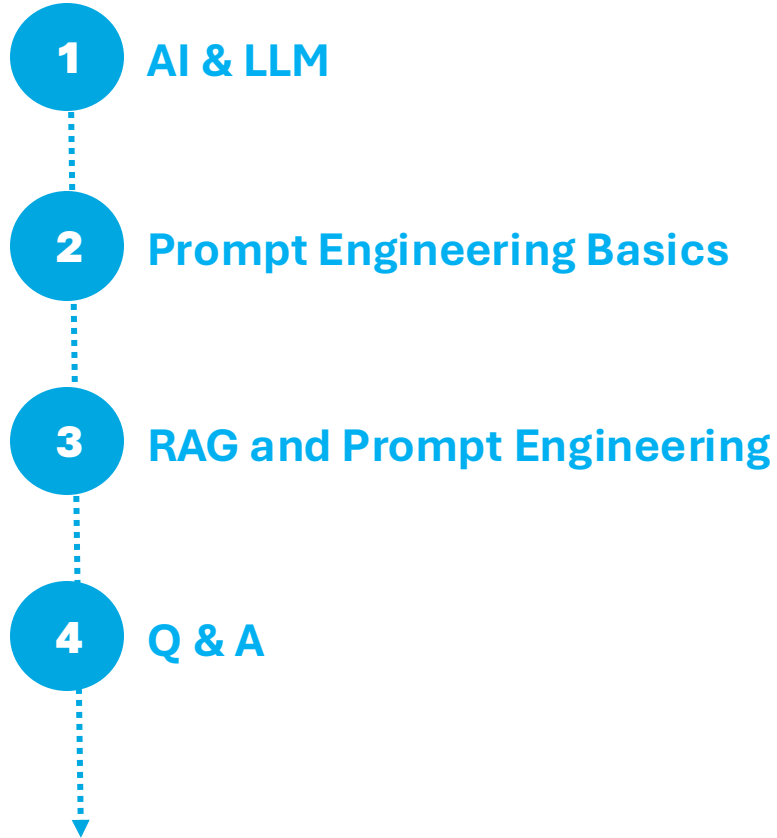
“Art is unable and will always be unable to dispense with mechanical means and produce its results intellectually.”

“The discovery will do a lot for art. It’s a **revolution**.”





Agenda





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AI & Large Language Models (LLMs)

AI Key Concepts

AI, or Artificial Intelligence

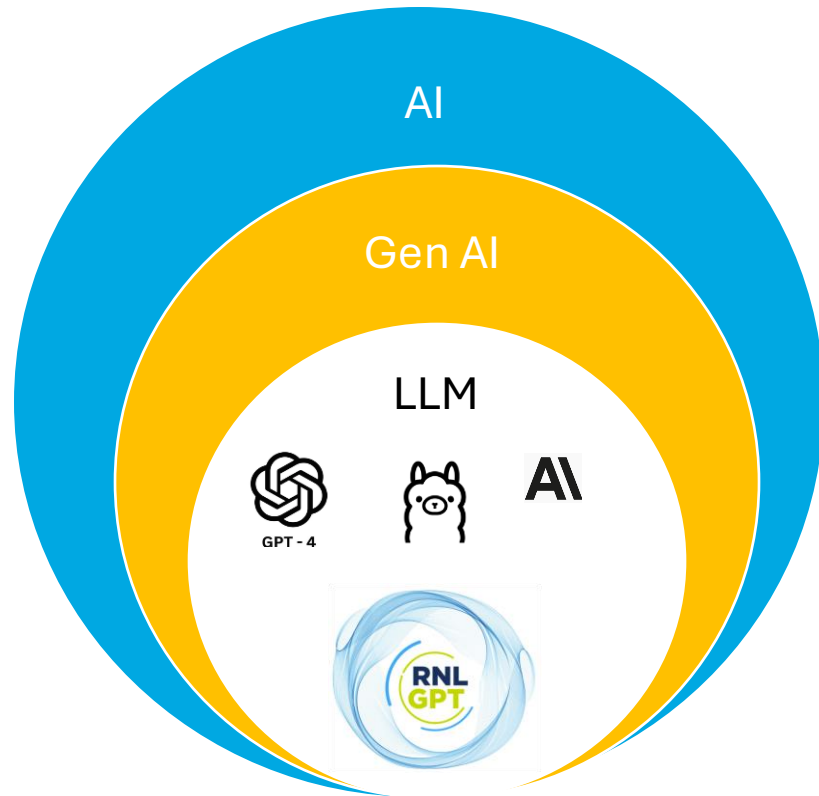
algorithms that simulate human intelligence or capabilities.

Gen AI, or Generative AI

applications that specialize in *generating* content.

LLM, or Large Language Models

gen AI models that understand and generate human language.



Proprietary vs. Open-source LLMs



Proprietary LLMs



Open-source LLMs

Hallucinations

Factually Inaccurate

AI presents fake or fictitious information as an answer

Contextually wrong

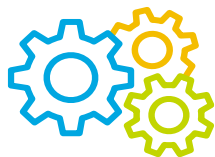
AI presents an answer that is not relevant to the given context

Nonsensical Response

AI presents an answer that is not readable, grammatically incorrect, or makes no logical sense

Logically Flawed

AI presents an answer that contradicts a previous claim



Fine Tuning

Tweak the AI
system directly



Document Curation

Most relevant
data source



Prompt Engineering

Write a better
query/question/request



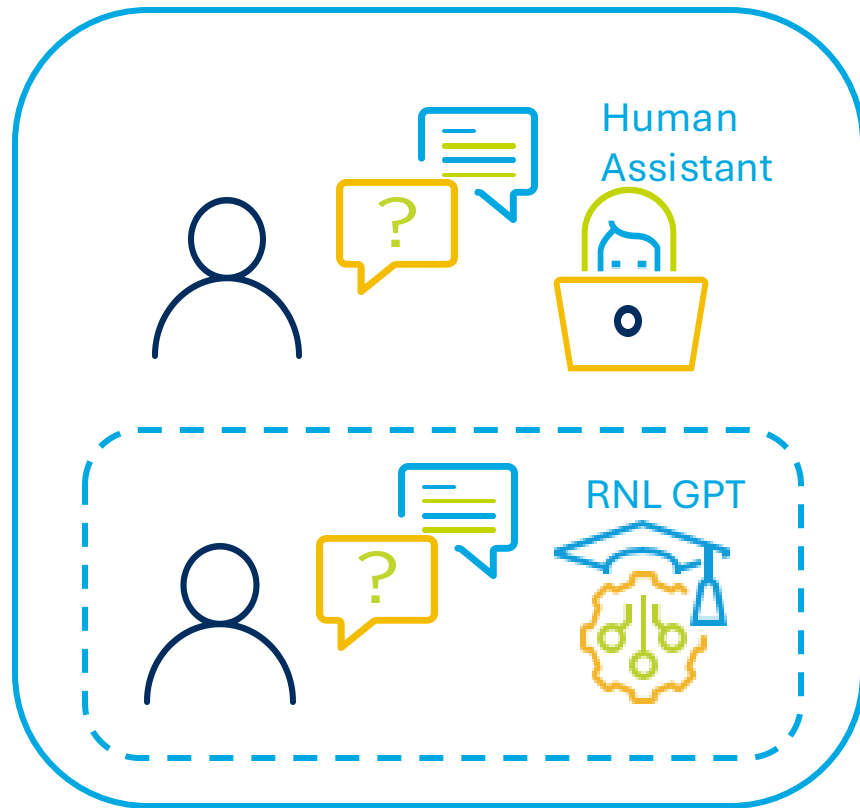
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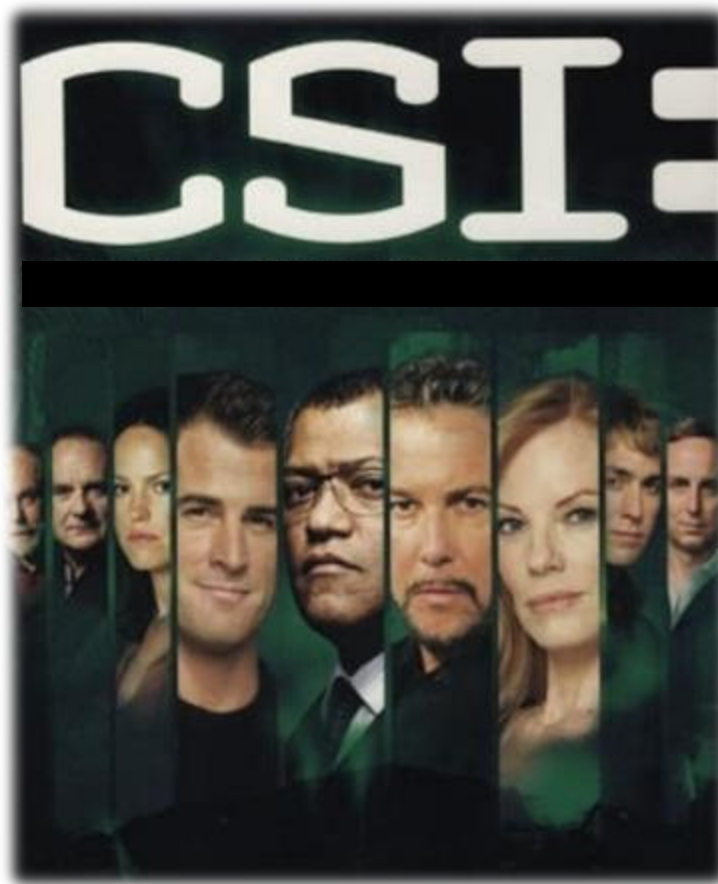
Prompt Engineering Basics

What is Prompt Engineering (PE)?

A **prompt** is **your question** or **request** to the AI model you're using.

Prompt engineering is the practice of writing effective questions for Gen AI tools





General Principles: CSI

Clear

- Be straightforward and use affirmatives (e.g., *do*, *ensure that...*,)
- If a part of your prompt includes input you want the model to process, use delimiters (e.g., backticks, quotation marks, etc.)
- Assign a role to the model (e.g., "*You are a product categorizer.*")

Specific

- Include some examples in the prompt (e.g., one-shot or few-shot prompting)
- Provide target audience or target output style (e.g., ... "*The audience is an expert in higher ed tech industry.*")
- Repeat specific words/phrases if needed.

Interactive

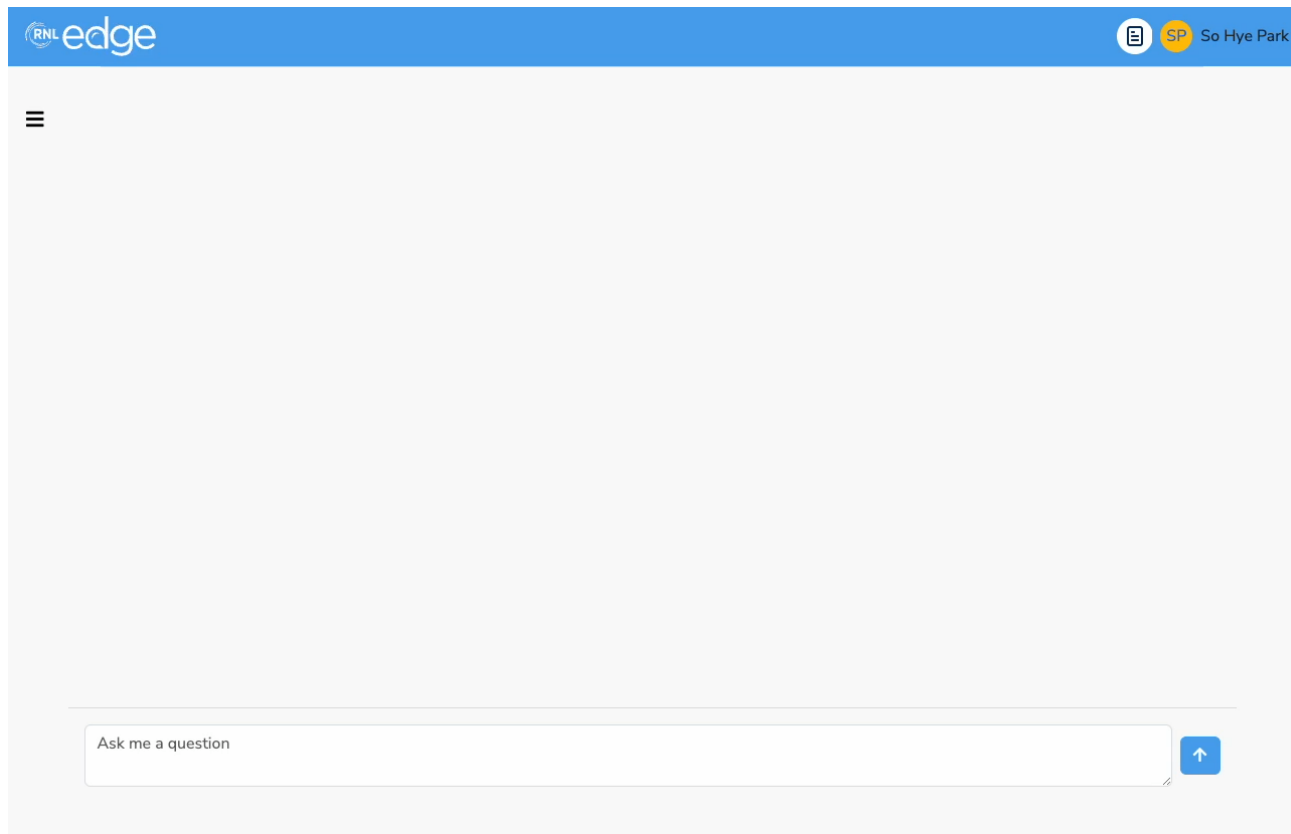
- Write prompts iteratively.
- Instruct the model to check its own solution (e.g., "*If you cannot find anything relevant, write 'no relevant information'.*")
- Break down a complex task into a sequence of simpler tasks/ prompts

Be straight forward and use **affirmatives**.

Clear

Specific

Interactive



The screenshot shows a web interface for 'RNL edge'. At the top, there is a blue header bar with the 'RNL edge' logo on the left and a user profile icon with the text 'SP So Hye Park' on the right. Below the header, there is a large, empty white rectangular area representing a chat window. In the top-left corner of this area is a hamburger menu icon. At the bottom of the chat window, there is a text input field with the placeholder text 'Ask me a question' and a blue square button with a white upward-pointing arrow to its right.

Use **delimiters** (e.g., backticks, quotation marks, etc.) to set task-input boundaries.

Clear

Specific

Interactive

Based on GRE Analytical Writing Rubric, assess the following essay inside three backticks

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Whenever people argue that history is a worthless subject or that there is nothing to be gained by just “memorizing a bunch of stupid names and dates,” I simply hold my tongue and smile to myself. What I’m thinking is that, as cliché as it sounds, you do learn a great deal from history (and woe to those who fail to learn those lessons). It is remarkable to think of the number of circumstances and situations in which even the most rudimentary knowledge of history will turn out to be invaluable. Take, for example, ...

```

Assign a **role** to the LLM.

Clear

Specific

Interactive

Example 1:

You're a higher education technology consultant. Explain how AI can be used for annual fundraising process.

Example 2:

You're a marketing specialist working at a higher education tech company. Draft an email to your client advising to use an LLM-based chatbot (developed by your company) on their websites for better engagement with potential applicants.

Example 3:

You're a product categorizer. Based on Google Product Taxonomy, categorize the following product based on its description: " This nursery tent is made for little boys and girls looking for adventure inside or out. Gray star exterior and stripes turquoise play mat brings freshness to every room... "

Include some **examples** in the prompt.

Clear

Specific

Interactive

Zero-shot prompting

Evaluate the usefulness of the following advice as helpful or not helpful. Advice: "If you have work, just start working" Usefulness:

One-shot prompting

Evaluate the usefulness of the following advice as helpful or not helpful
Based on the following example:
"If you have work to do, just start working." ==> Usefulness: Not helpful.
What is the usefulness of the following phrase?
"If you try to achieve your goal, start by writing down some steps towards the goal." Usefulness:

Few-shot prompting

Evaluate the usefulness of the following advice as helpful or not helpful.
Examples:
1. Advice: "To improve focus, try meditating for 15 minutes every morning."
==> Usefulness: Helpful
2. Advice: "If you're down, just cheer up and think positive thoughts." ==>
Usefulness: Not helpful.
Advice: "If you have work to do, just start working."
Usefulness:

Provide target audience or output style

Clear

Specific

Interactive

RNLedge

SP

So Hye Park

Ask me a question

Repeat specific words or phrases if needed.

Clear

Specific

Interactive

Example 1:

I want to write a blog post emphasizing the importance of **tailored outreach** using **AI**. When you write the post, make sure to explain how **AI** can make the difference in **tailored donor outreach**.

Example 2:

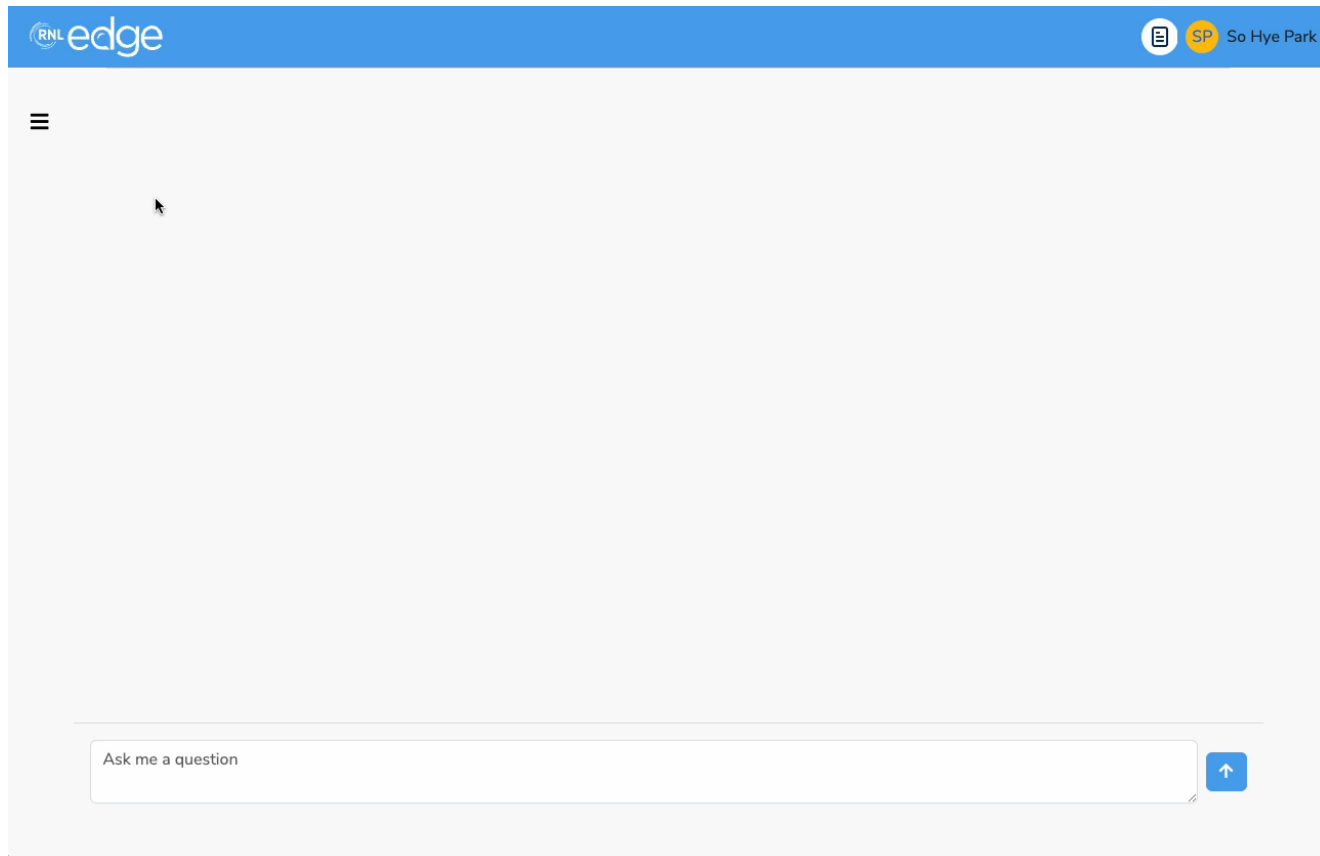
I'm helping my client who wants to boost enrollment in their **online graduate programs**. Considering the general characteristics of **online graduate programs**, advise me on some effective recruitment strategies.

Write prompts **iteratively**.

Clear

Specific

Interactive



The screenshot shows a web interface for 'RNL edge'. The top header is blue with the 'RNL edge' logo on the left and a menu icon, a yellow 'SP' badge, and the text 'So Hye Park' on the right. The main content area is light gray and mostly empty, with a hamburger menu icon in the top left. At the bottom, there is a white input field with the placeholder text 'Ask me a question' and a blue button with an upward arrow icon.

Instruct the LLM to **check** its own solution

Clear

Specific

Interactive

List some of the politicians who were born in New York, NY.



Answer

"There have been many politicians born in New York, NY throughout history. Here are a few examples:

1. Theodore Roosevelt - Born in Manhattan in 1858, Roosevelt went on to become the 26th President of the United States.
2. Franklin D. Roosevelt - Born in Hyde Park, NY in 1882, FDR served as the 32nd President of the United States and led the country through the Great Depression and World War II.
3. John F. Kennedy - **Born in Brookline, MA**, but raised in New York City, JFK served as the 35th President of the United States before his assassination in 1963... "

Follow-up Prompt

Verify your answers by providing more details on which city or county each politician was born.

Break down complex task into a sequence of simpler prompts/tasks/steps.

Clear

Specific

Interactive

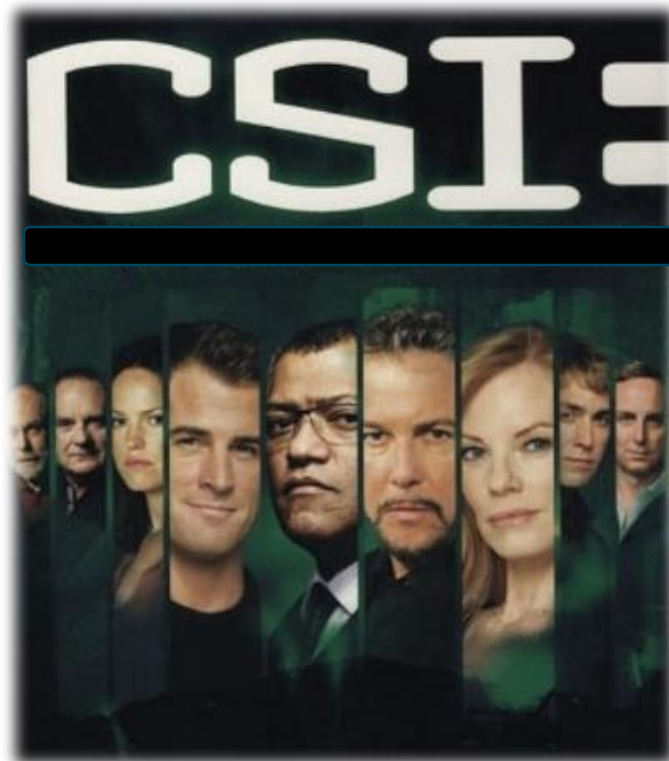
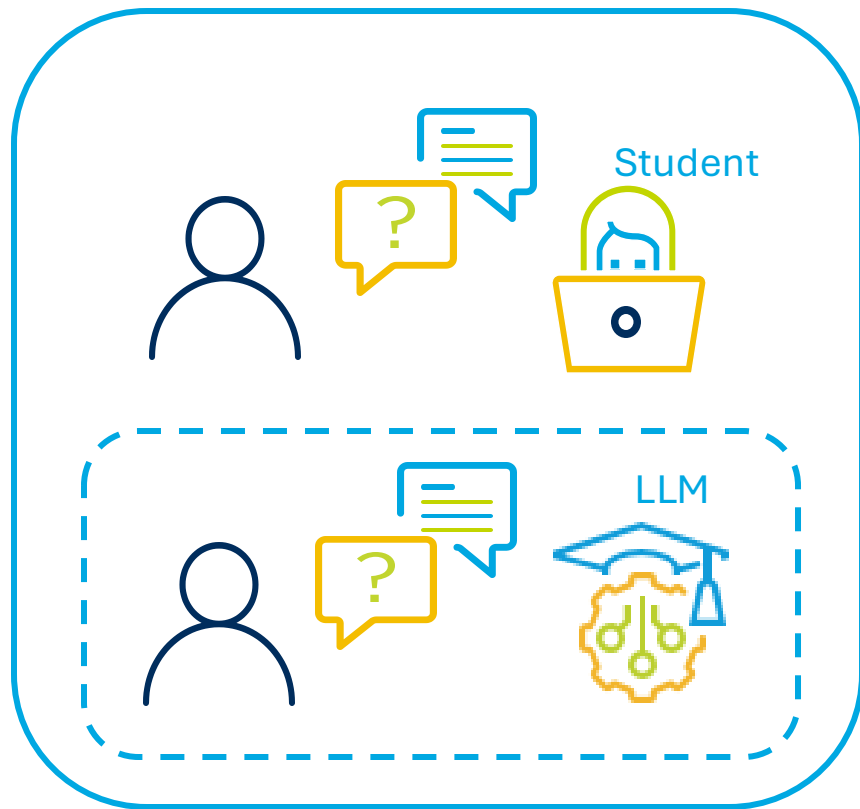
I'm a higher education consultant and I'm trying to extract insights from students' feedback about their institution.

Perform the following actions:

- 1 – Select the negative comments among all the student feedback texts delimited by triple backticks.
- 2 – Extract the recurring themes in the feedback comments.
- 3 – Write a concise report about the student feedback pointing out the themes extracted from negative feedback.
- 4—Write an email that includes the short report about the themes extracted from the students' negative feedback.

Student feedback: `` `{ Pretty decent, but the learning fountain has been broken for a while. There was frogs in there at one point, someone built a little ramp for the frogs to get out, but I think it was removed by maintenance; comments 2; comments 3.... } ``

To Recap





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RAG and Prompt Engineering



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Q & A

Thank you

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The 39th Annual National Higher Education Conference