# **OPIM 5894 Assignment 2: Prompt Engineering**

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This is an individual assignment. You should follow the instructions and answer the corresponding questions.

Use the provided Word document *A2\_template.docx* to supply your answers. When you finish the assignment name it *A2\_lastname*\_*firstname*.docx, replacing *lastname* and *firstname* with your name. You must upload your final assignment to HuskyCT using the provided link by the due date and time posted in the assignments folder.

# **PART 1: GenAI Rockstar (25 pt)**

**Deliverables:**

1. Post the final version of your song on the discussion board of Assignment 2. Provide a brief write-up explaining your choices—why you selected the theme, how you approached the lyrics, and why you chose the particular genre. The goal is to introduce your creative work to others so that they will reply to your post. (25pt)
2. The top 2 songs that receive the most votes will earn 5 bonus points. (Bonus 5pt)

**Response**:

I chose *"Pumping Love"* as my go-to workout song because it’s all about high energy and pushing limits—exactly what I need to make the most of my YMCA membership (which I’m paying for but barely using!). In my mind, it’s me and my girlfriend at the gym, hyping each other up and giving it our all. The upbeat tempo and catchy lyrics fire me up to go the extra mile, reminding me that I’m stronger than my excuses. This song is my ultimate motivation to hit the gym and put that membership to good use!

# **PART 2: Data Analysis with GenAI (75 pt)**

## **Problem 1: Persona**

**Deliverables:**

1. Your prompt with persona and the AI response. (10pt)
2. Your prompt without persona and the AI response. (10pt)
3. Your brief reflection. (5pt)
   * 1. A screenshot of a chat

        AI-generated content may be incorrect.A white paper with black text

        AI-generated content may be incorrect.A screenshot of a computer

        AI-generated content may be incorrect.
     2. **Without persona**
   * A screenshot of a white text box

     AI-generated content may be incorrect.A screenshot of a white and black text

     AI-generated content may be incorrect.A white paper with black text

     AI-generated content may be incorrect.A white and black text on a white background

     AI-generated content may be incorrect.3) **The difference that I observed** is that the persona of a Data Science Manager with expertise in AI and emerging technologies shaped the response to be clear, structured, and solutions oriented. The language was professional, focusing on practical strategies to mitigate risks while maximizing benefits, which aligns well with the persona's leadership role and technical background. The response maintained a forward-thinking tone, emphasizing governance, ethical considerations, and strategic alignment — key traits for someone managing AI integration. Overall, the response effectively embodied the persona's characteristics, balancing technical depth with managerial insight. If anything, adding more real-world examples could have enhanced the authenticity even further.

## **Problem 2: Few-Shot Learning for Task Performance**

**Deliverables:**

1. Your prompt with the New Text to summarize, few-shot examples, and the AI response. (10pt)
2. Your prompt without few-shot examples and the AI response. (10pt)
3. Your brief reflection. (5pt)

**Response**:

* + 1. With Examples
  + A screenshot of a chat

    AI-generated content may be incorrect.A screenshot of a white text

    AI-generated content may be incorrect.A screenshot of a text message

    AI-generated content may be incorrect.

**2) Without examples**

A screenshot of a computer

AI-generated content may be incorrect.

3) The difference between with examples and without examples is that when ChatGPT provided responses with examples, it offered more context and concrete scenarios, helping to clarify complex concepts and making the information easier to understand. These examples enhanced the response by providing real-world applications or analogies, which helped bridge the gap between theory and practice.

Without examples, ChatGPT’s responses were more abstract and focused on general principles. While still informative and structured, they lacked the depth and relatability that examples can offer. In these cases, the response was more theoretical, requiring the reader to apply the information to their own understanding or context.

Overall, responses with examples tend to be more engaging and easier to grasp, while responses without examples are more straightforward and focused on the essentials.

## **Problem 3: Chain-of-Thought Reasoning for Complex Problem Solving**

**Deliverables:**

1. Your prompt with the task, chain-of-thoughts reasoning, and the AI response. (10pt)
2. Your prompt without chain-of-thoughts reasoning and the AI response. (10pt)
3. Your brief reflection. (5pt)

**Response**:

* + 1. With examples ( it performed the best)
  + A screenshot of a cell phone

    AI-generated content may be incorrect.A list of products with text

    AI-generated content may be incorrect.A screenshot of a product launch event

    AI-generated content may be incorrect.
  + 2) **without example of saying step by step**

1. A screenshot of a computer

   AI-generated content may be incorrect.A screenshot of a farm system

   AI-generated content may be incorrect.

3) The difference that I observed between both the responses is huge. It was straight on point, and I felt like I was getting information from a subject matter expert in the first case. And when it comes to not providing proper context and steps, it just gave a couple of lines about the outline and not deep. AI thought well and answers were better if I said step by step and briefly mentioned them.