Exercise: Creative Prompt Engineering for Image Generation

Objective:

Learn how to craft effective prompts to generate images using a diffusion-based image generation model (**Stable Diffusion**).

Instructions:

For each task below:

1. Write your own prompt(s) to describe the desired image.
2. Generate the image using the **Stable Diffusion model** hosted on **Hugging Face Spaces**: https://huggingface.co/spaces/stabilityai/stable-diffusion
3. Refine your prompt if needed to improve the results.
4. Save the final image and document your prompt(s).
5. Answer the reflection questions at the end.

Tasks:

Task 1: Simple Object Scene

Generate an image of a **bicycle on a countryside road during sunset**.

   • Challenge yourself: Should the style be realistic, artistic, or stylized? What details (colors, lighting, perspective) can you add to improve the image?

Task 2: Style Variation

Create **3 different versions** of a **robot character**, each in a distinct style: - Comic book style - Photorealistic - Futuristic neon cyberpunk

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Task 3: Creative Brief Simulation

You are hired to create the cover for a **fantasy novel**. The scene should feature: - A lone warrior standing on a cliff. - A stormy sky in the background. - A distant castle partly hidden in mist.

Write your prompt as if you are briefing an AI artist to capture this scene.

Task 4: Complex Constraints

Generate an **advertisement image** for a **modern smartwatch** with the following requirements: - White watch body - Minimalist pastel blue background - Floating watch with a reflection below - High-contrast lighting emphasizing the watch face

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Task 5 (Bonus): Iterative Improvement

Start with a **basic prompt** like "A cat sitting on a chair." - Generate an image. - Look at what's missing or wrong. - Improve the prompt in at least **2 iterations**, and save all versions.

Deliverables:

For each task, submit the following in your report: - Final prompt - Final generated image - (Optional) Initial prompt(s) and intermediate images if you did iterations. - Brief explanation (2–3 sentences) of why you wrote the prompt the way you did.

Reflection Questions:

1. Which prompts gave you the best results? Why?
2. What challenges did you face in getting the model to follow your instructions?
3. How would you change your approach if you were designing for a real-world client?

Model & Tools:

All students must use:

- **Stable Diffusion on Hugging Face Spaces:** https://huggingface.co/spaces/stabilityai/stable-diffusion

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Grading Criteria (Example):

Criteria	Max Marks
Prompt Clarity & Creativity	30
Relevance to Task	25
Iterative Improvement (Task 5)	20
Reflection Quality	15

Criteria	Max Marks
Presentation & Image Quality	10
Total	**100**