

Objectives:

- Experiment with several prompts using RunwayML's text-to-image tool and track their effects on the output.
- Apply RunwayML's tools to turn a static image into a video.

Title: Demonstrate Prompt Engineering and Generative AI using "RunwayML" Tools.

Theory:

Prompt engineering means creating and refining inputs for AI models in order to achieve relevant and high-quality outcomes. This lab investigates the effect of prompts on generative AI models and employs RunwayML tools to create images and short videos with text-to-image and text-to-video functionality.

Task 1: Prompt for Text to Image:

“A bucket of fresh popcorn with a movie ticket resting on it, set against a dark background with soft spotlighting.”

Output:



Task 2: Prompt for Image to Video

“Dancing in stage in traditional song”

Output:



Discussion:

The text-to-image prompt in Task 1 produced an image of a movie theatre complete with glowing screens, red velvet seats, and golden light beams. The findings showed that a well-crafted, descriptive prompt can direct the AI to produce results that are consistent with the user's intent.

In Task 2, RunwayML demonstrated its ability to detect motion from text prompts by transforming a static image into a dynamic video. The generated video of "people walking in a theatre" brought the static image to life, demonstrating the collaboration of generative AI tools and thoughtful prompt design.

Conclusion:

This experiment demonstrated the significance of early engineering in maximising the capabilities of generative AI tools like RunwayML. In both text-to-image and image-to-video tasks, detailed and descriptive prompts were used to generate high-quality, contextually relevant outputs. The findings demonstrated that thoughtful input design has a direct impact on the model's ability to generate meaningful and accurate content. Furthermore, the ability to transform static images into dynamic videos demonstrated the versatility of generative AI in creative applications. This demonstrates the potential of such tools in fields such as media production, storytelling, and design, opening the door to new workflows and creative possibilities.