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Semester -I A.Y.2025-26 Sub.: - Artificial Intelligence Lab

Class: SE

Assignment 05: Assignment and practice of AI Image Generator

Theory: Introduction to AI Image Generators

1. 1. What are AI Image Generators?

AI Image Generators are models that create images from textual descriptions using deep learning techniques. These tools can generate photorealistic, abstract, or stylized visuals based on the user's prompts.

1.2 Popular AI Image Tools

- DALL·E (by OpenAI)
- Midjourney
- Stable Diffusion
- Leonardo AI
- Canva AI
- Adobe Firefly

1. 3. Applications

- Advertising and Marketing
- Book and Game Illustration
- Content Creation
- Branding and Logo Design
- Education and Storytelling

1.4 Limitations & Ethical Concerns

- Difficulty with text generation inside images
- Inaccuracy in human anatomy
- Potential misuse in misinformation
- Copyright and bias issues

Assignment Tasks

Task 1: Comparative Research

Compare at least 2 AI image generators (e.g., DALL·E vs Midjourney). Evaluate them based on:

- Image quality
- Prompt accuracy
- Style flexibility
- Usability

- Licensing & terms

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Example: 'A steampunk city under moonlight with flying airships and glowing lanterns.' ***Task 2: Visual Design Project***

Choose one of the following projects:

- Create a poster for a fictional event or product
- Design a visual story using 3 image prompts
- Generate concept art for an educational topic

Practice Activity (If No Direct Access)

If you do not have access to Midjourney or paid AI tools:

- Use DALL·E from ChatGPT or Canva AI tools
- Generate visuals and save screenshots
- Use them to simulate a story, poster, or presentation

Output:

1. Image Quality

- **DALL·E 3** generates **highly photorealistic**, coherent visuals capable of nuanced prompt understanding and detailed scene rendering. It also supports inpainting/outpainting.
- **Leonardo.AI**, particularly with its **Phoenix model**, produces excellent, stylized imagery that rivals platforms like Midjourney in photorealism, while offering varied models (PhotoReal, Lightning XL, Lucid Origin) tailored to different visual aesthetics.

2. Prompt Accuracy

- **DALL·E 3** is renowned for **understanding intricate prompts** with finer semantic interpretation and generating coherent text when needed.
- **Leonardo.AI** also interprets complex prompts well and offers tools like “Prompt Enhance” and “Flow State” to expand or refine your ideas for better outcomes.

3. Style Flexibility

- **DALL·E 3** offers versatility in styles (photorealism, illustrations, abstract), and supports composition edits like inpainting/outpainting.
- **Leonardo.AI** excels in **style flexibility**, with numerous models specialized for different aesthetics, plus fine-grained controls for aspect ratio, transparent backgrounds, layering, upscaling, live canvas drawing, and more.

4. Usability

- **DALL·E 3** is known for its **simple UI**, easy integration via ChatGPT, and accessible API models—ideal for beginners and rapid use.
- **Leonardo.AI** has a clean, intuitive interface as well, enhanced by features like real-time canvas editing, token-based access (free and paid tiers), and an array of creative tools.

5. Licensing & Terms

DALL·E 3: Operates under a **proprietary license** from OpenAI; images generally can be reused, resold, or merchandised, though legal debates over ownership persist.

- **Leonardo.AI:** Offers **daily free token access (e.g., ~150/day)** and paid plans; uses licensed, synthetic, and public/open-source training data

[prompt : 'A steampunk city under moonlight with flying airships and glowing lanterns.'](#)

Dall.E 3 :



[Leonardo.ai](#) :



Generate concept art for an educational topic : space Exploration

Prompt : "A cinematic digital painting of humanity's journey into space: a massive futuristic rocket launching from Earth with fiery exhaust, astronauts floating outside a space station, and a glowing planet Earth in the background. The scene transitions into deep space where a spacecraft approaches Mars, its red surface glowing under sunlight. Stars, distant galaxies, and a glowing nebula add scale and wonder. The atmosphere is awe-inspiring, with dramatic lighting, vivid colors, and a sense of discovery."



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