PosterAI: A Unified Image-to-Image Model for High Quality Text-Integrated Image Generation Image Generation for Posters and Book Covers

TECA-359

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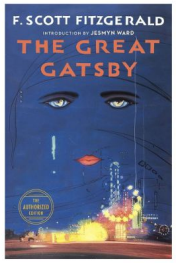
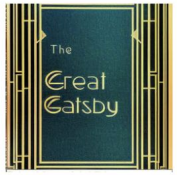
Engineering Problems & Objectives



Original



PosterAI Image2Image

PosterAI Text2Image

Civitai

Adapted from Fitzgerald's' Great Gatsby (1925)

Can AI technologies such as **GLM for images** and **diffusion-based models** be combined to generate high-quality **images** with accurately embedded **text** specific to creating **posters** and book covers?

Results and Analysis

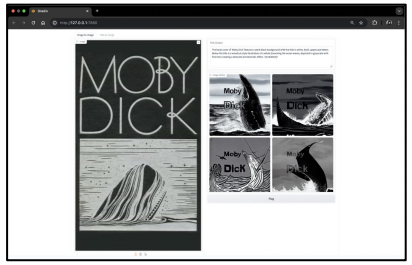


Image	Text Placement	Contextual Relevance	Aesthetic Quality
	- Good text placement - No words are overlapping	- The book title and images match	- The picture is pleasing to the eye
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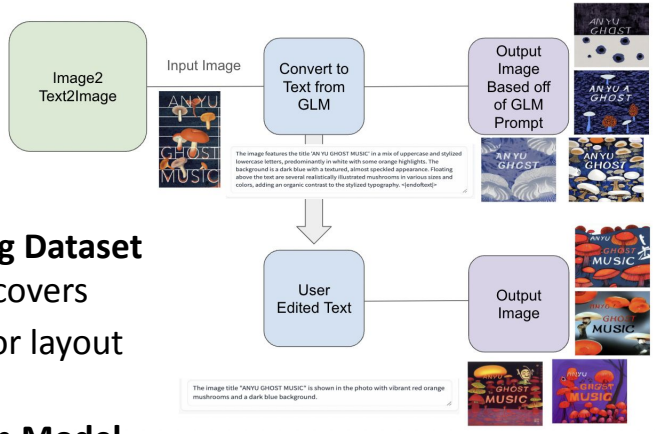
✔ Working prototype

✔ Desired Results

Melville's Moby Dick (1851); Sant-Exupéry's Little Prince (1943), Mestre-Reed's Sacrificio (2022), and Yu's Ghost Music (2023)

Project Design



An Yu's book Ghost Music (2022)

- **Custom Training Dataset** with 250 book covers
- **Transformers** for layout prediction
- **Latent Diffusion Model (LDM)** for efficient image synthesis

Interpretation & Conclusions

- **Intelligent text layout** can be embedded into diffusion models for image generation
- **Custom training sets** can be created for more specialized image generation use cases
- **GLM's and LDMs can be combined** to create a multi-step image-to-image generation pipeline
- **Potential applications** include graphic design, advertising, publishing and personalized content generation