

100xEngineers

Lecture 9

Lora

What are captioners?

- Blip captioner
- Wd tagger
- Interrogate CLIP

Blip captioner



Image Captioning

Image-Text Retrieval:
"The man sitting on a couch is smiling."

VQA: "What is the dog wearing?"

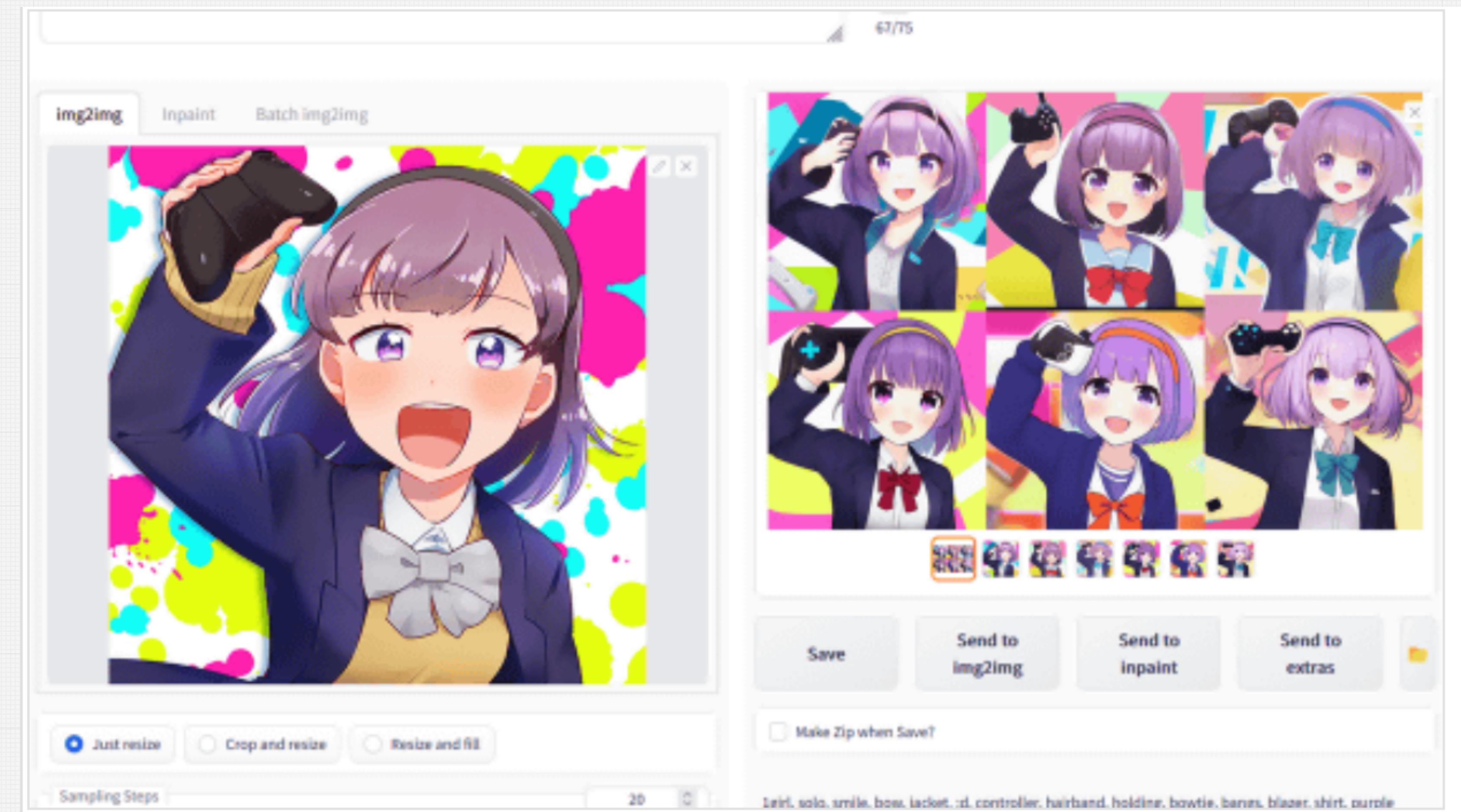
BLIP

"A man and a dog reading a book together."

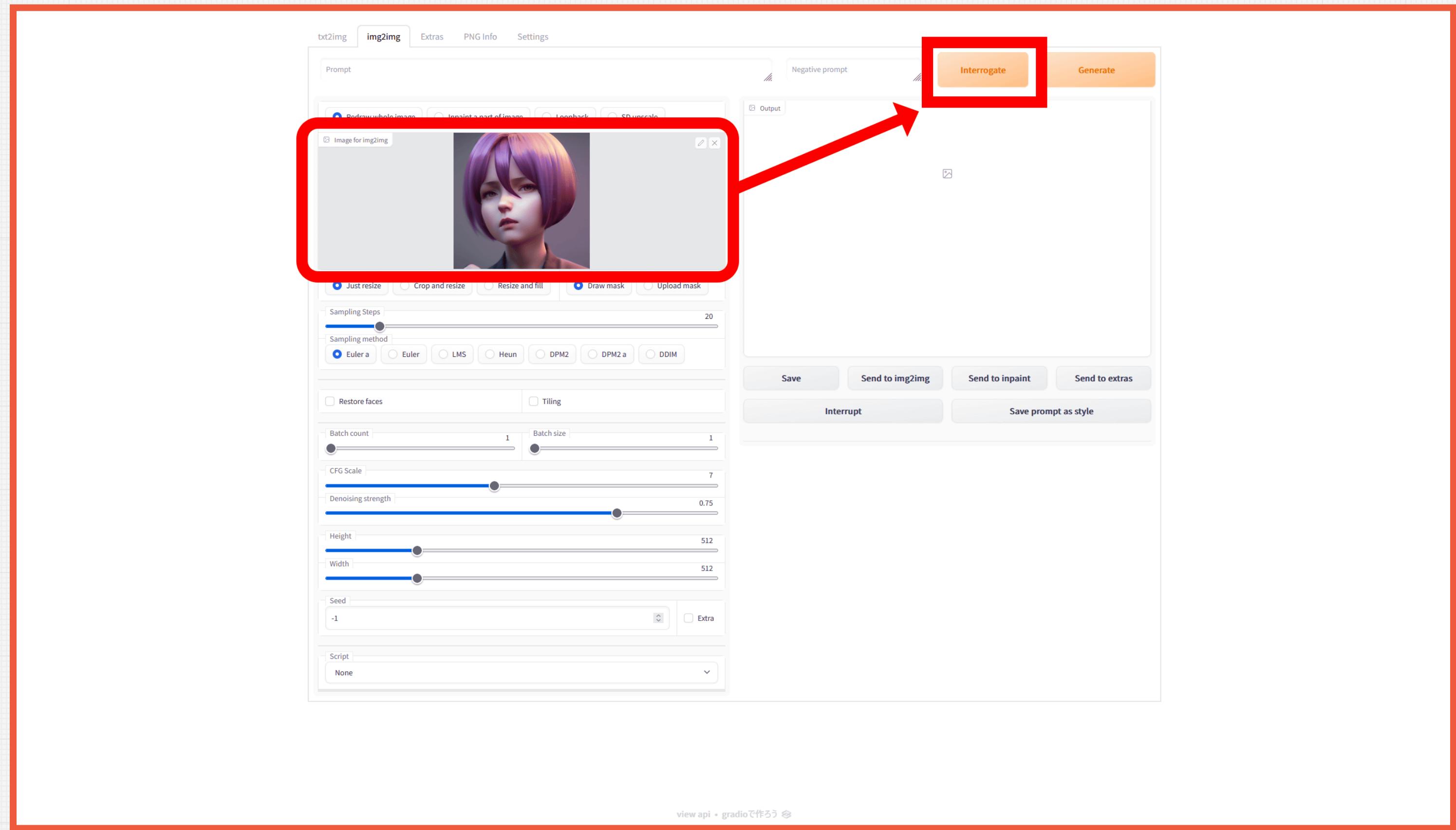
Matching score; 0.75

"A pair of glasses"

Wd tagger



Interrogate CLIP



How to use Lora two method

Additional networks/ Lora inside sd

What are LoRA models?

add_detail:1



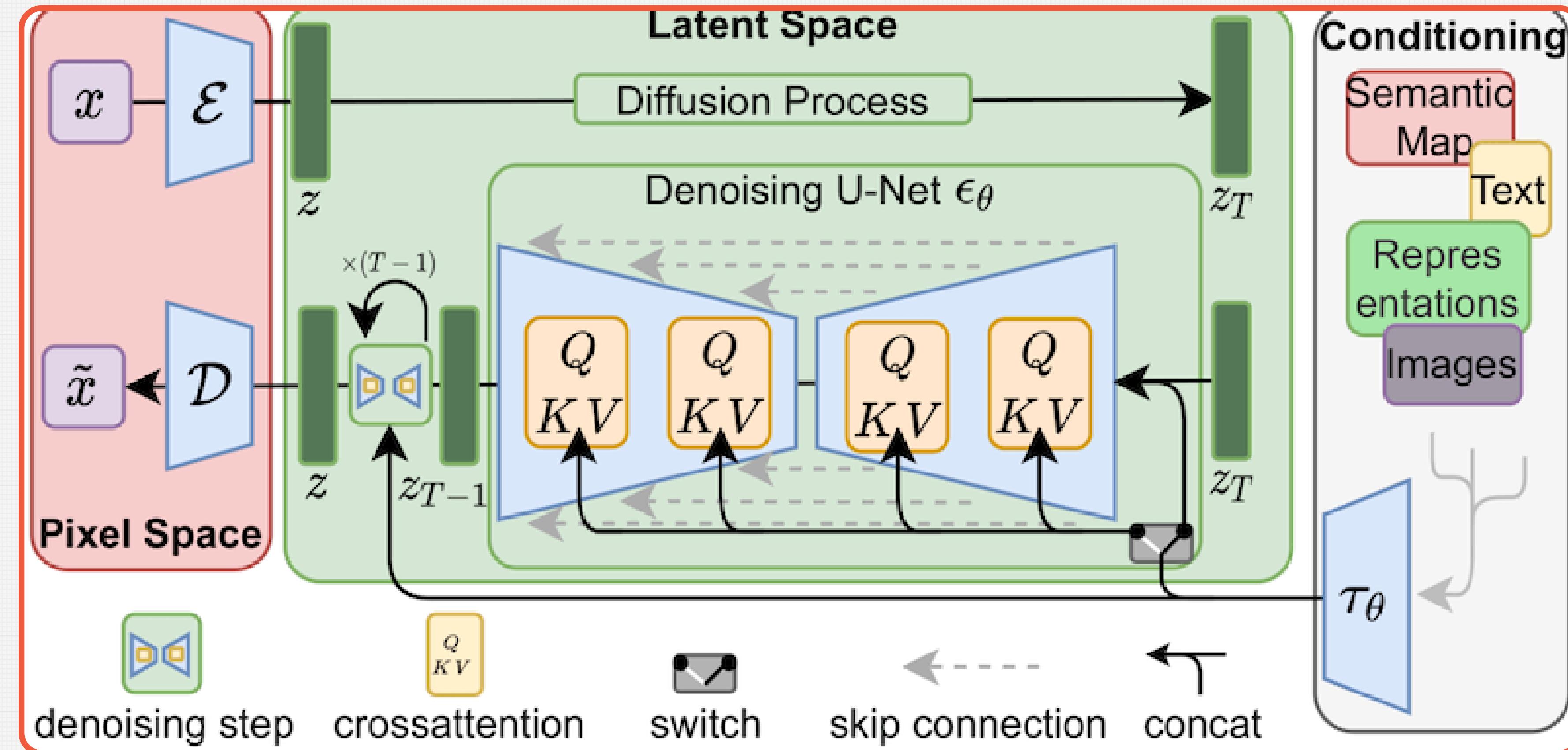
add_detail:0



add_detail:1



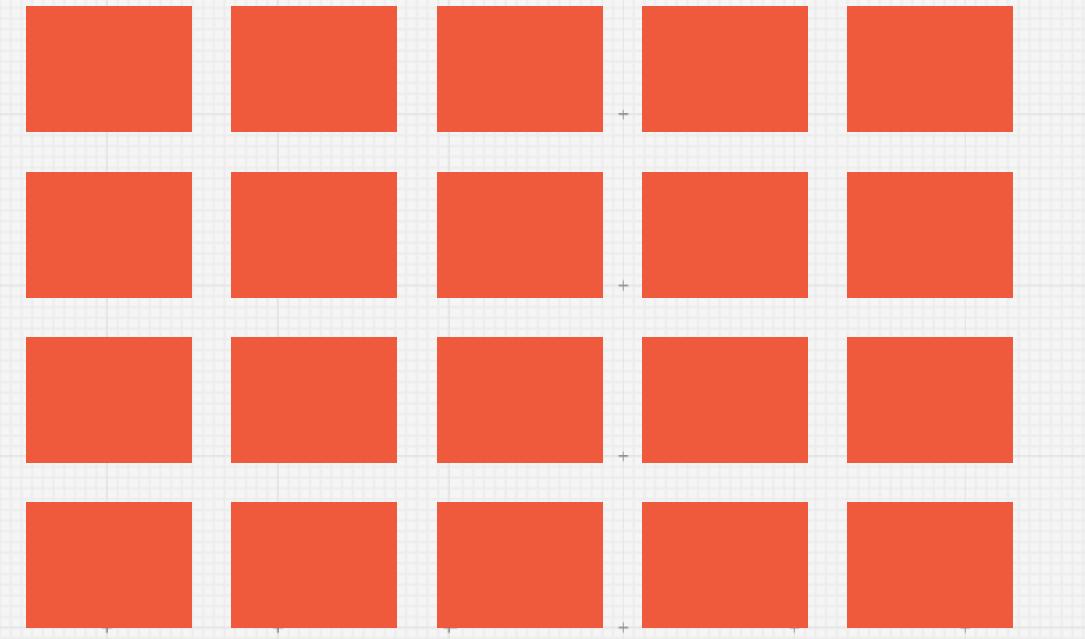
How does LoRA work?



The trick of LoRA is breaking a matrix into two smaller (low-rank) matrices.

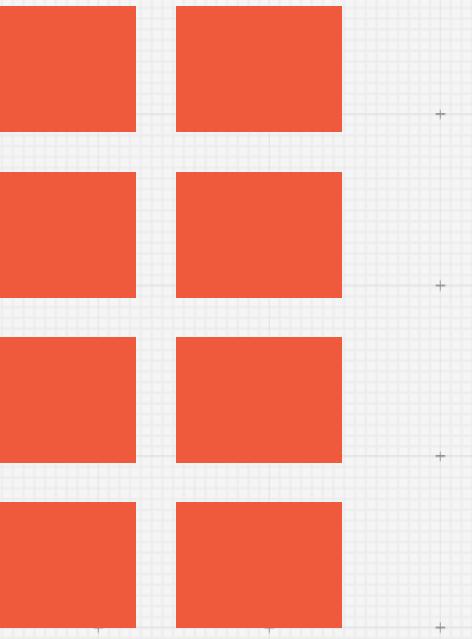
2,000 Columns

1,000 rows



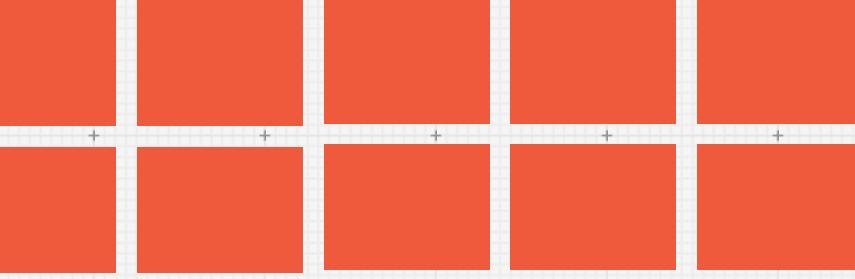
2 Columns

1,000 rows



2,000 Columns

2 rows



Where to find LoRA models?

The Civitai website interface. At the top, there's a search bar with the placeholder "Search models, #tags, @users". Below it, a navigation bar includes "HIGHEST RATED" and "ALL TIME" dropdowns. A "LORA" filter is applied to the results. The main area displays four LoRA model cards, each featuring a thumbnail image and the word "LORA" in a blue box. The categories at the bottom of the page include GIRLS, PHOTOREALISTIC, SEXY, FEMALE, PORTRAITS, REALISTIC, NUDES, VIDEO GAME, CELEBRITY, GAME CHARACTER, REAL PERSON, PORN, and PERSON.

Civitai

The Hugging Face website interface. At the top, there's a search bar with the placeholder "Search models, datasets, users...". Below it, a banner encourages users to "Join an organization". The main area features a "Models" section with a search bar containing "lora". A list of LoRA models is displayed, including "lora-library/simbatheog", "lora-library/wrestle", "taesiri/ethan_ai_lora", and "cosmin/pokemon-lora". Each entry shows the author, last update, and download count.

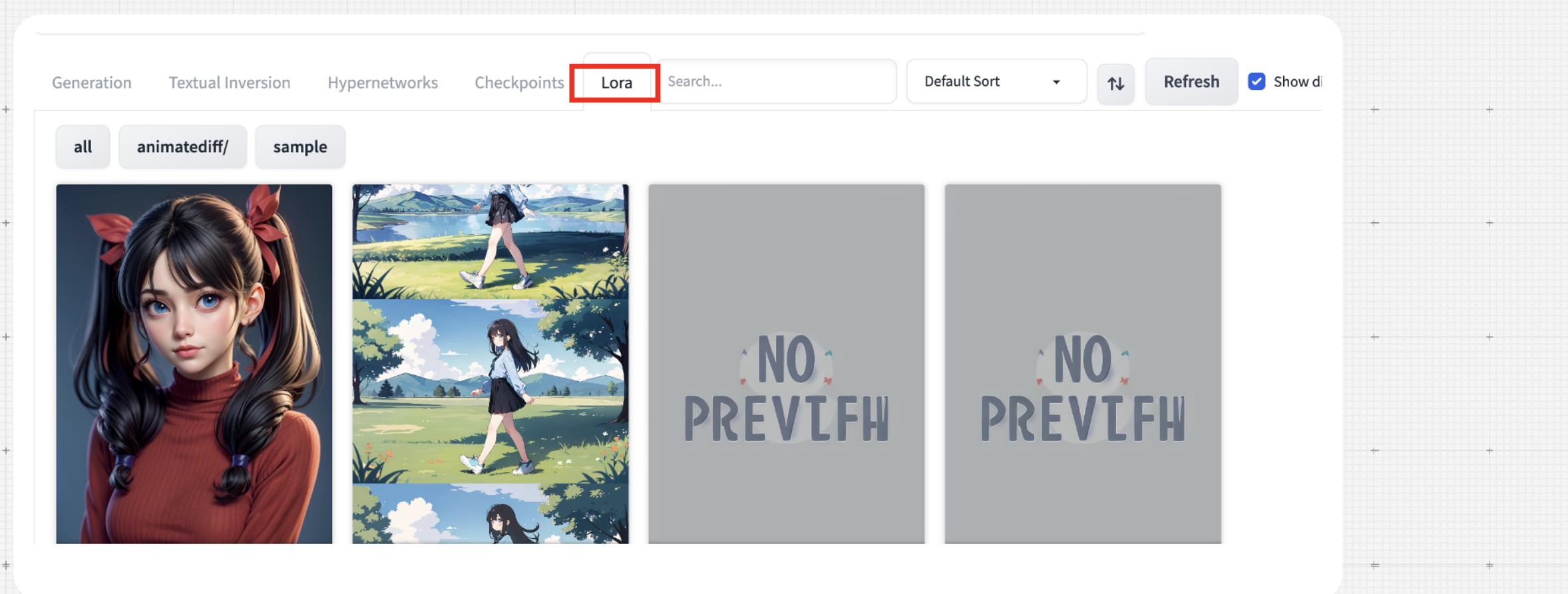
Hugging Face

How to use LoRA?

Step 1: Install the LoRA model

To install LoRA models in AUTOMATIC1111 webui, put the model files in the following folder.

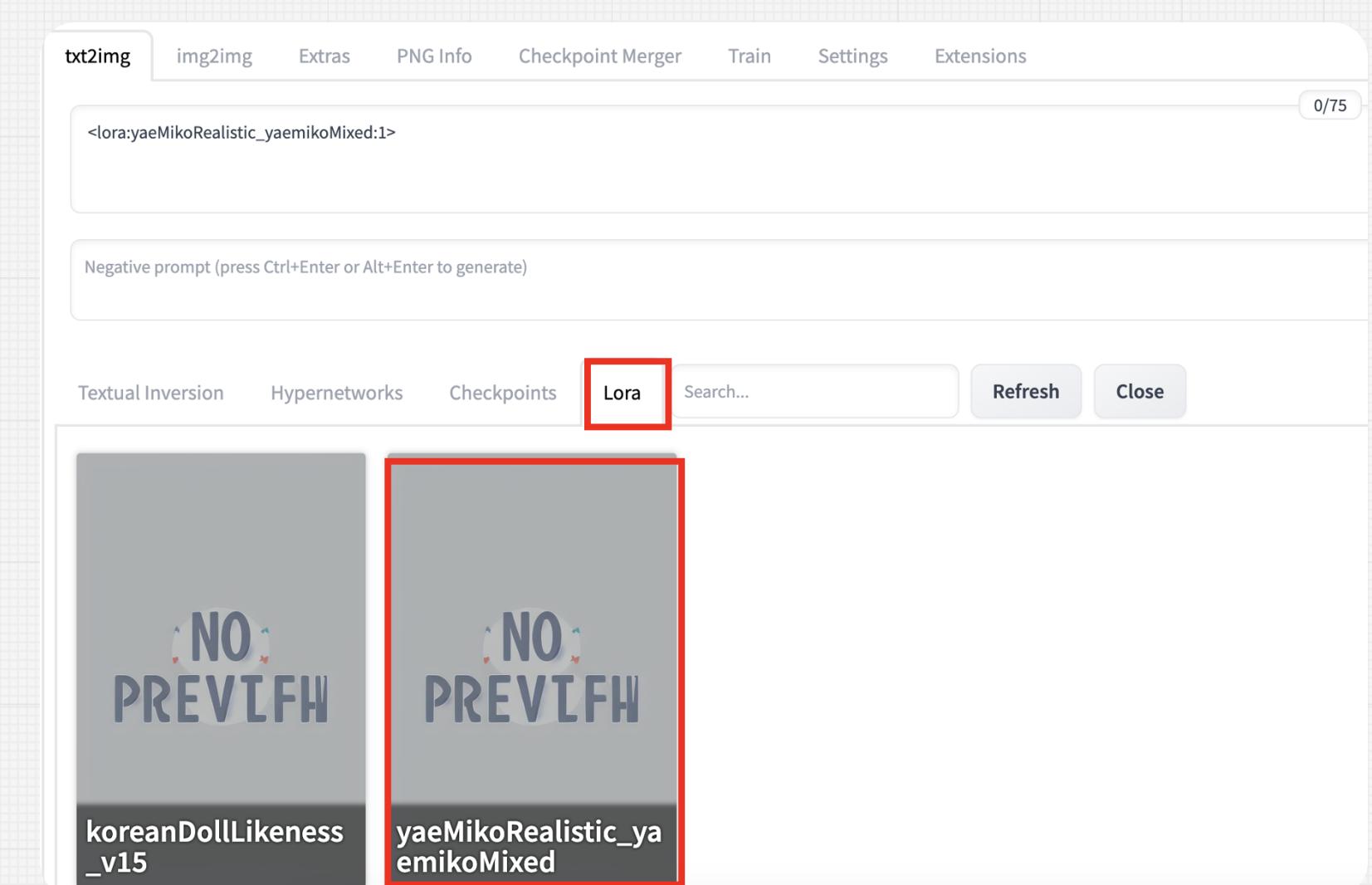
stable-diffusion-webui/models/Lora



Step 2: Use the LoRA in the prompt

To add a LoRA with weight in AUTOMATIC1111 Stable Diffusion WebUI, use the following syntax in the prompt or the negative prompt:

stable-diffusion-webui/models/Lora

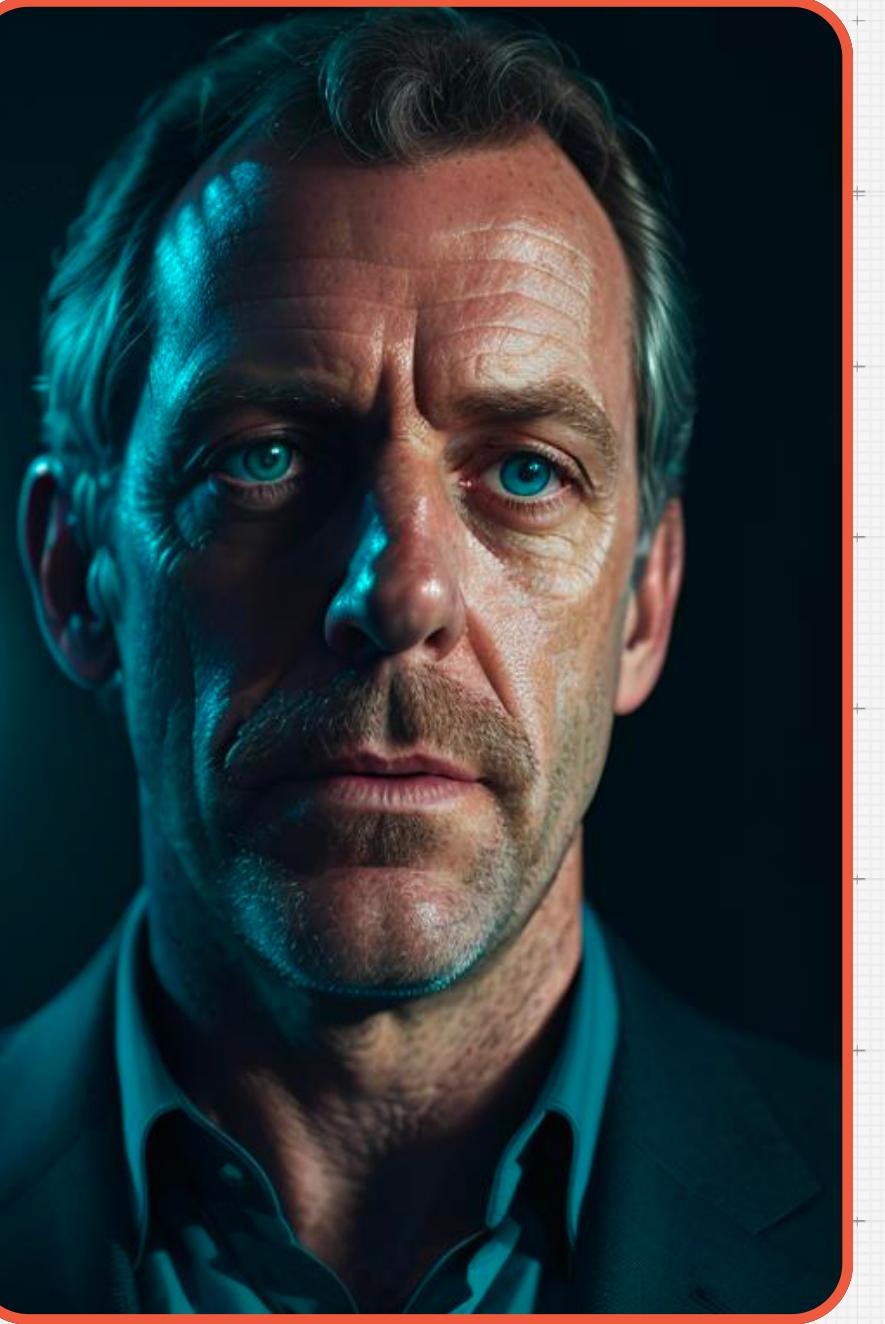


Useful LoRA models

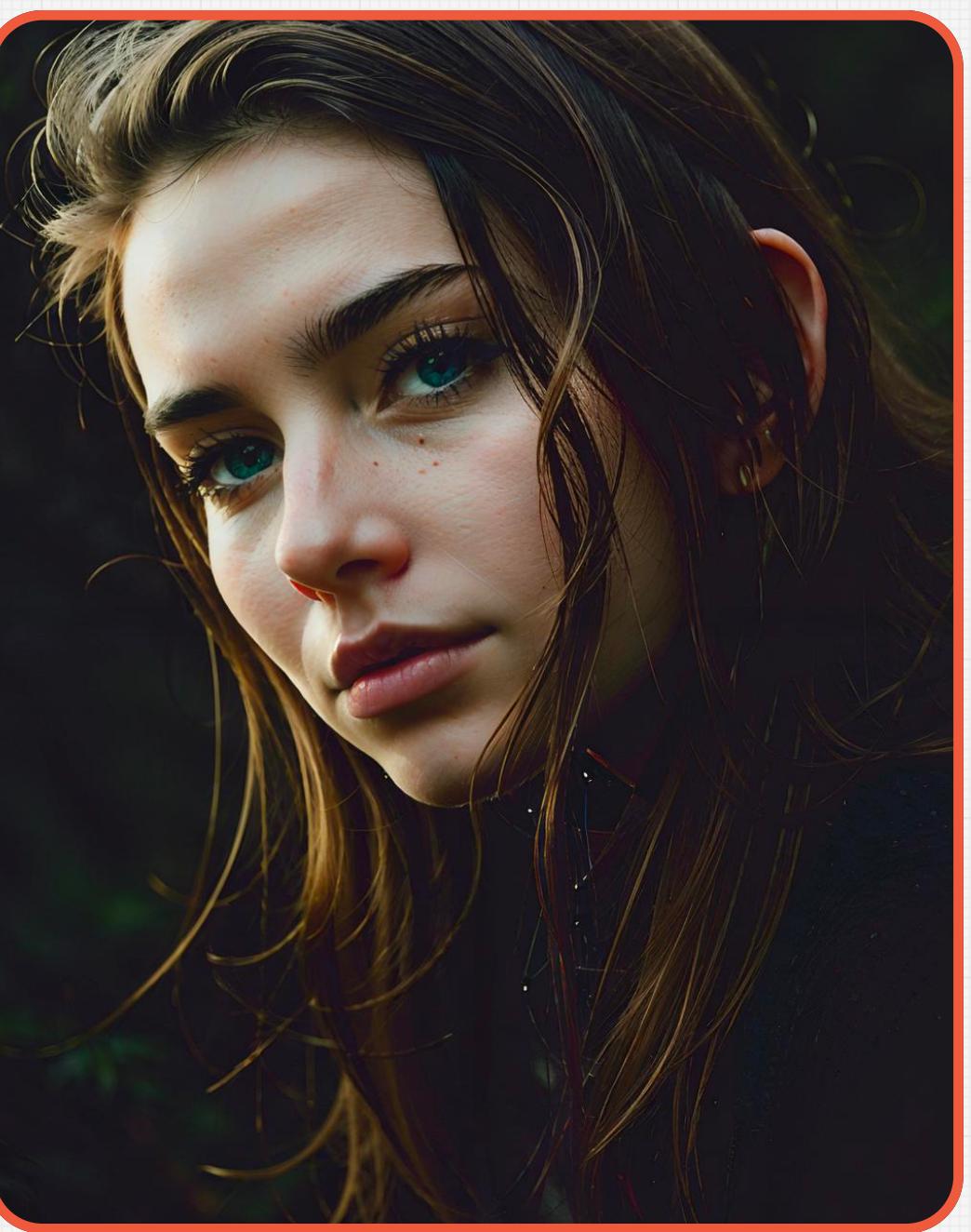
Detail Tweaker



Epi Noise Offset



Better Portrait lighting



Interesting LoRA models

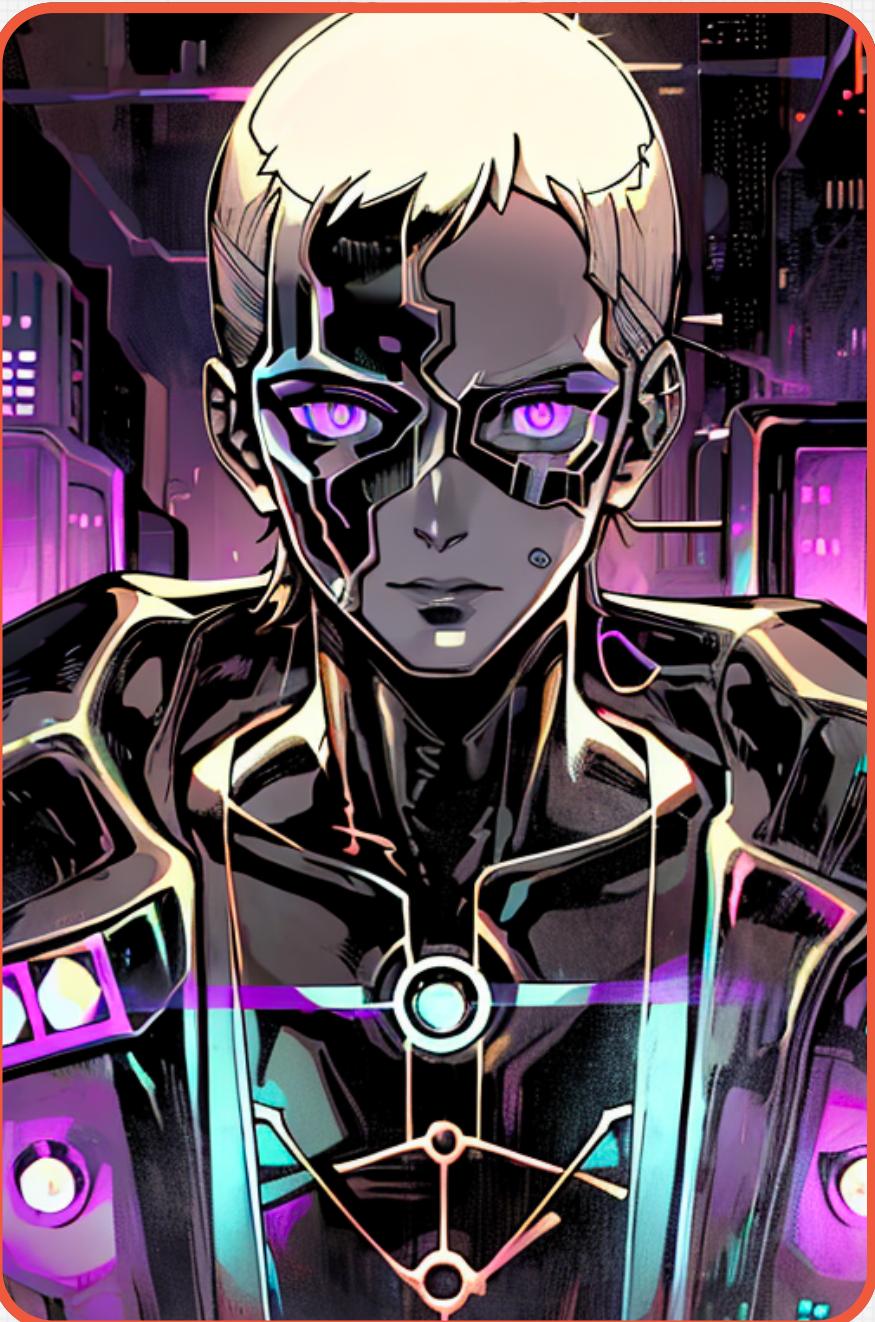
Shukezouma



Akemi Takada (1980s) Style



Cyberpunk 2077 Tarot card



What's unique **about LoRA?**

LoRA has a few differences from DreamBooth that make it especially appealing as an alternative:

- **Faster training:** Training a new concept with LoRA takes just a few minutes.
- **Smaller outputs:** Trained LoRA outputs are much smaller than DreamBooth outputs. This makes them easier to share, store, and re-use.
- **Multiple concepts:** You can combine multiple trained concepts in a single image. (This feature is still experimental, but we're working on improving it. 

- **Faster image generation:** When you train your own DreamBooth model on Replicate, the model only stays warm when you're actively using it. With LoRA, you're not running your own model, but rather running the one [cloneofsimo/lora](#) model, which is always on and ready to serve predictions.
- **Better at styles, worse at faces.** Based on our experimentation, LoRA seems to do a better job at styles than DreamBooth, but faces aren't as good. They are stuck in uncanny valley, rather than looking precisely like

Resources

- <https://stable-diffusion-art.com/lora/>
- <https://softwarekeep.com/help-center/how-to-use-stable-diffusion-lora-models>
- <https://www.andyhtu.com/post/image-captioning-methods>

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Question and Answers