Model Training Book for Beginners

Get the latest version from https://openart.ai/modeltrainingbook.

Brought by: OpenArt

Authors: Nozem
Ivan Filho
PublicPrompts
Coco Mao

Last updated: 11/08/2023

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of kawaii cow reading a book on a purple background

Table of Contents

All the images in this book are generated on OpenArt. If you'd like to create a similar image, you can click the model link.

01 Preface

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of kawaii cow reading a book on a purple background

Why model training?

Model: modern wooden furniture

Model training, in this case **fine-tuning** specifically (we will explain the details later), **allows AI learn a concept from the images you provide and generates similar images easily**. It can help AI generate something it would otherwise cannot or struggle to generate.

- **Example 1**: You have a specific style of home decor in mind. Before, you may spend hours crafting the prompt to generate that exact style, but now you can just give AI a few images you curate and you will **effortlessly get images you like** without prompt engineering.
- **Example 2:** AI doesn't know your face, but you can show a few images of yourself and AI can **generate images of your face**.

We have more concrete examples in the next few slides.

Who should train a model?

Model: Kawaii 3D
Prompt: <mymodel> a 3d render of kawaii koala cooking on a white background

Everyone could benefit model training their own models:

- **Artists** could train models from their artwork and use AI to quickly ideate
- **Brands** could train models on their existing marketing materials and generate on-brand assets
- **Designers** could train models from images in their Pinterest board and get inspired even more
- **Concept artists** could train models of characters and prototype the character in different scenes
- **E-commerce sellers** could train models of a product and generate product photos
- **Everyone** can train model on themselves or their pets and see themselves in any outfit

OpenArt

Artists could train a model on specific artwork to achieve same art direction

AI-generated images of **the model** [High Contrast Flat Shading]

Some of the training images

OpenArt

Anime lovers could train a model on their favorite anime character and create fan art

AI-generated images of **the model** Calintz

Some of the training images

Bakers could train a model based on their previous baking and come up with new cake designs

AI-generated images of the model [Bakery]

Some of the training images

OpenArt

Concept artists could train a model on their character and easily prototype

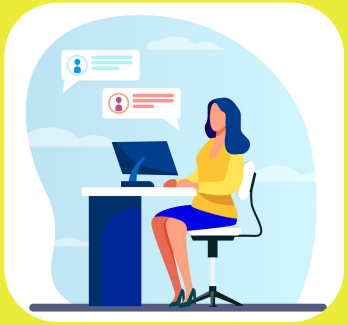
AI-generated images of **the model** Hollow Knight

Some of the training images

Illustrators could train a model on their own illustration and visualize new ideas quickly

AI-generated images of **the model** [Flat Illustration]

Some of the training images



Source: Freepik

Interior designers could train a model on their Pinterest board and get new ideas

AI-generated images of **the model** [Modern Wooden Furniture Style]

Some of the training images

E-commerce sellers could train a model on their product and get new product photos

AI-generated images

Some of the training images

Jewellery designers could train a model based on previous jewels

AI-generated images of **the model** Jewelry

Some of the training images

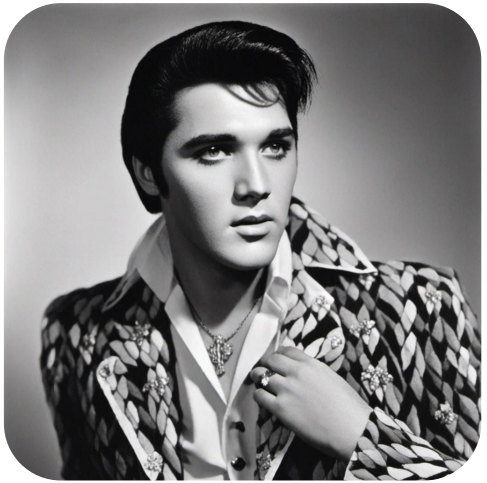
Ikebana florists could train a model of past compositions

AI-generated images of **the model** [Ikebana]

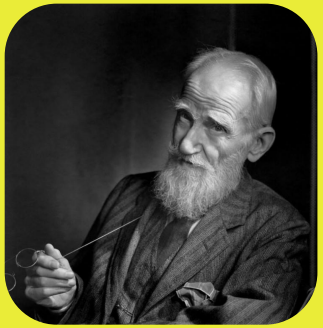
Some of the training images

Photographers could train a model based on their photography style

AI-generated images of **the model** [Karsh photography]



Some of the training images



Tattoo artists could train a model based on their previous tattoos

AI-generated images of the mode Tattoos

Some of the training images

OpenArt

Video game designers could train a model based on their art style.

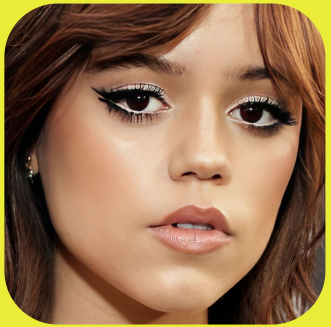
AI-generated images of **the model** [Borderline Style]

Some of the training images

Everyone could train a model of themselves or ...

AI-generated images of **the model** [Jenna Ortega]

Some of the training images



Or their pets :)

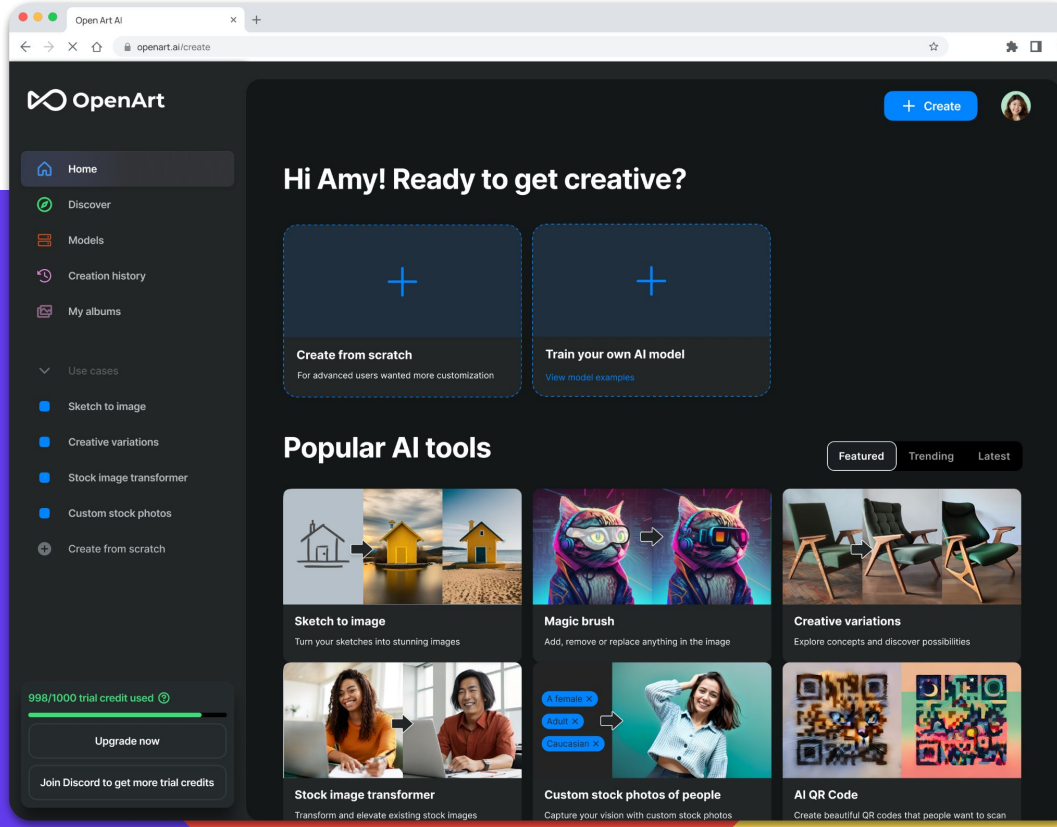
AI-generated images of **the model** [Goldendoodle Benny]

Some of the training images

OpenArt Intro

OpenArt (https://openart.ai) is a AI image generation platform. You can generate images with existing popular models or train your own model. It has all kinds of AI tools to help you get your desirable images.

OpenArt has a vibrant community. Not only can you train your own models, you can also use other people's trained models on the models page.



OpenArt

02

Model Training Intro

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of kawaii cow reading a book on a pink background

Model training VS fine-tuning

Model training is the process of building a model from the ground up by showing AI a large dataset, while **fine-tuning** involves further training a pre-trained model with a smaller and specific dataset. The pre-trained model, often referred to as a "base model".

Here's an analogy: if training a model is to teach a dog an entirely new trick, fine-tuning is to teach the dog a new trick similar to one it already knows.

In this book, when we talk about training a model, we actually mean fine-tuning, since one only needs to give a small number of images for AI to learn, but for the sake of simplicity, we will just say model training. **The base model of fine-tuning on OpenArt is SDXL and the exact fine-tuning method is called LoRA**, which we will talk in the next slide.

Model: Impressionism
Prompt: <mymodel>
lavender-fields in the Provence

What is LoRA?

LoRA stands for Low-Rank Adaptation. It allows you to use low-rank adaptation technology to quickly fine-tune diffusion models.

LoRA is one the fine-tuning methods. Compared to other methods like DreamBooth, Textual Inversion etc, it has benefits like smaller output file size, fewer training images required etc.

LoRA is particularly valuable for beginners, as it simplifies the process of adapting complex models for your specific needs without requiring extensive expertise in AI. Whether you're looking to enhance the performance of an image generation model or fine-tune a model for your specific need, LoRA can be a valuable ally in AI image generation journey.

Model: Impressionism
Prompt: <mymodel>portrait of an old man wearing a green parka

How to train a model?

On OpenArt, training a model is as easy as 3 steps. You can then use your trained model just like any other models. You can visit OpenArt to start today or read the more detailed step-by-step instructions in Section 7.

Step 1 - curate your dataset of images. Read more dataset examples in upcoming sections.

Step 2 - name your model and **upload** the images on OpenArt. Wait for 5-15 min.

Step 3 - generate images with prompts. Make sure to add <mymodel> in your prompt.

Keys to train a good model in general

1.

Square images are preferred. Images are cropped to square when training.

2.

Images should be at last 1024×1024, non-blurry and clear.

3.

It could take a few **iterations** to train a really good model. You may need to train and adjust your dataset and train again.

OpenArt

03

Style Training

Model
Kawaii 3D

Prompt:
<mymodel> a 3d render of kawaii artist-cat painting a canvas on an orange background

Keys to train a good style model

1.

Quantity matters a lot! The more images the more likely you will get the style you want.

2.

Consistency is the key! Training is teaching the model what is "common" between the images, so there should be a very clear common factor.

3.

Variety wins! Have various objects in this style. If the training images only contain cars, the model will have a hard time creating humans - unless you only want car images back ;)

TRAINING IMAGES (19 training images)

OpenArt

Modern Wooden Furniture Model

Curated these images from **Pinterest**.

When curating the dataset, though you can pick images of different objects, make sure the vibe and style is pretty consistent. Otherwise AI won't recognize the style shared by these images.

GENERATED IMAGES

OpenArt

Modern Wooden Furniture Model





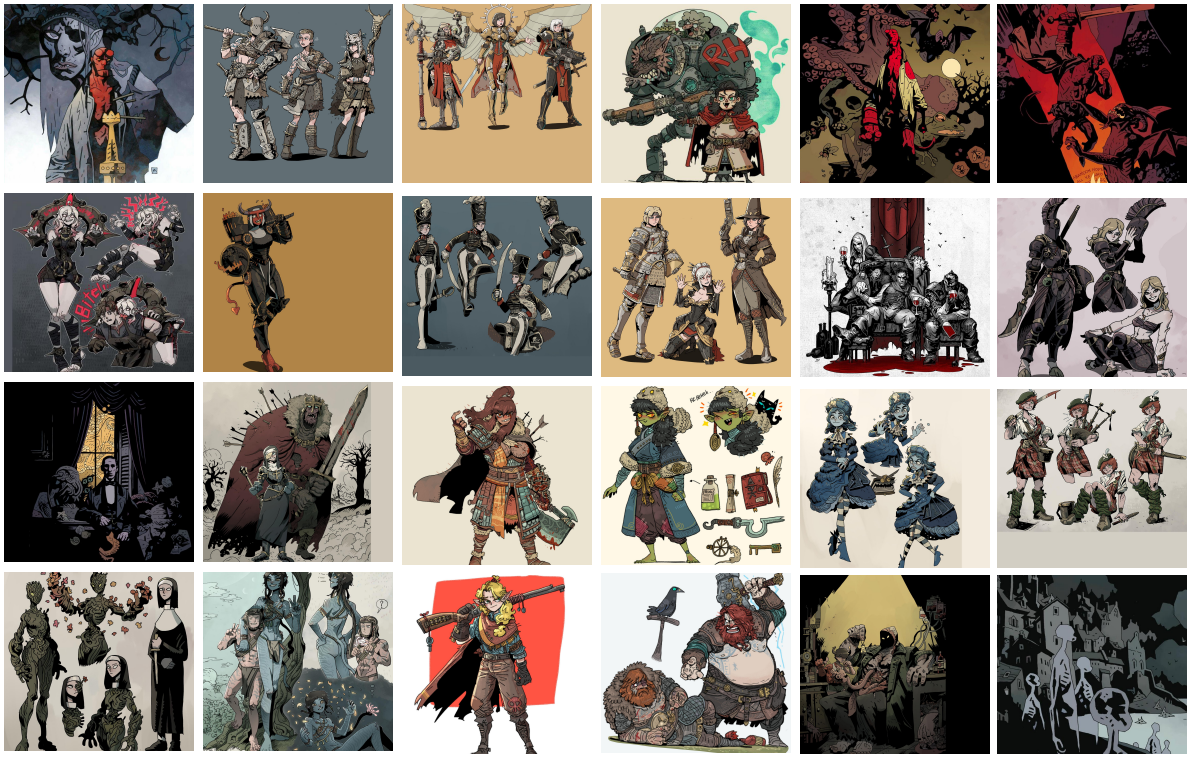

When generating the images, the prompts are all pretty straightforward. Like ***a living room in the style of <mymodel>***.

As you can see, even if the training images didn't contain images of people, it can still generate images of a person in this style, based on AI's interpretation.

TRAINING IMAGES (32 training images)

OpenArt

High Contrast, Flat / Hard Shading model



Curated these images from **Google**.

Aim for a colorful dataset for various colors, lights, subjects.

You may use images that are “zoomed crops” of your dataset images to have the AI learn all the details. As long as images don’t have limbs or joints , you could provide a flipped version of It to enhance symmetry .

GENERATED IMAGES

OpenArt

High Contrast, Flat / Hard Shading model





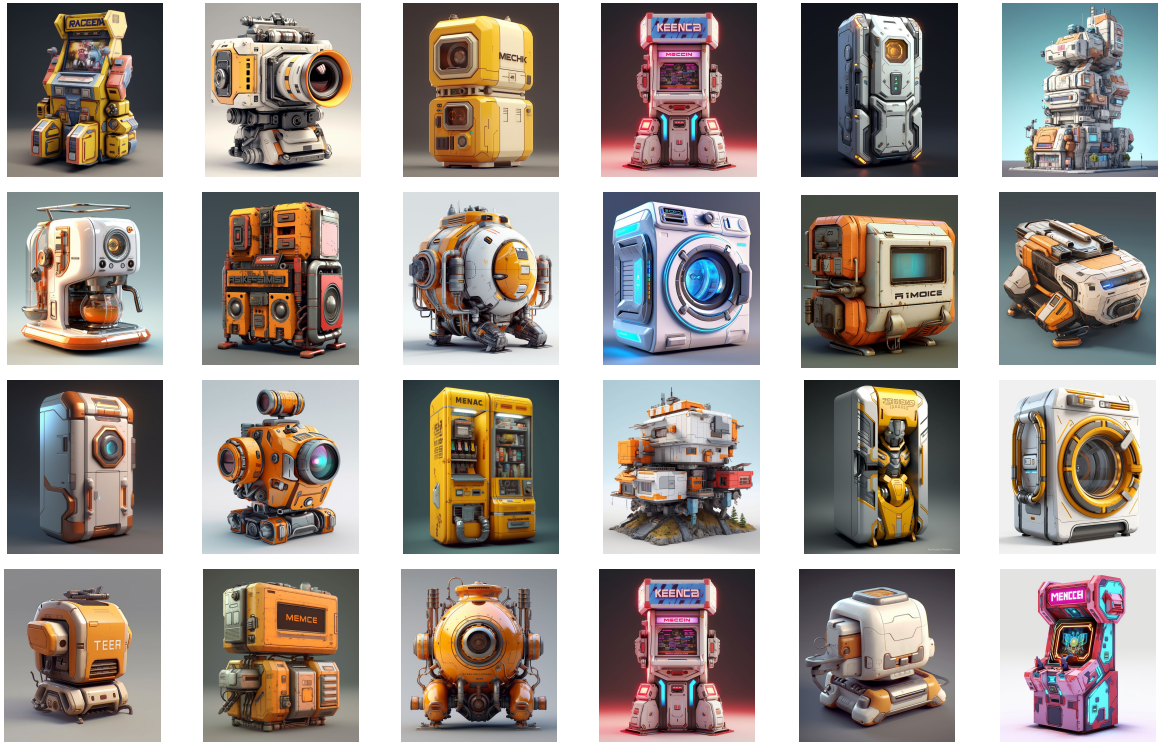

When generating the images, the prompts are all pretty straightforward : ***A ____ in <mymodel> artstyle.***

Example: *A wereshark, a Turkish pendant lamp, a desert city, an unicorn, a coffee machine and a Laboratory .*

Training images (24 training images)

OpenArt

Futuristic Machines



Created these images with **Midjourney**, but you can use any other models too like Stable Diffusion or Dalle-3.

The Midjourney prompts were:

coffee-machine-mecha render.
sound-system-mecha render.
refrigerator-mecha render.
microwave-mecha render.
toaster-mecha render.
etc...

GENERATED IMAGES

OpenArt

Futuristic Machines






Generated with the prompt ***<mymodel> futuristic _____***.

When we used 12 instead of 24 images the results were still futuristic, but less pronounced, so we recommend more training images if possible. As a rule for training a style model, use at least 20-30 images. The more references you will give the AI to learn, the better it will understand.

OpenArt

04

Character Training

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of a kawaii bearded wizard on a turquoise background

Keys to train good character model?

1.

Make sure to have **a variety of** poses, angles and backgrounds. If the background contains other characters, make sure it only appears in one or two images.

2.

Differences between images make the model think that those are changeable features. Therefore, it's important to **avoid using images that lack the standout details** that you want to keep and are unique to your characters.

3.

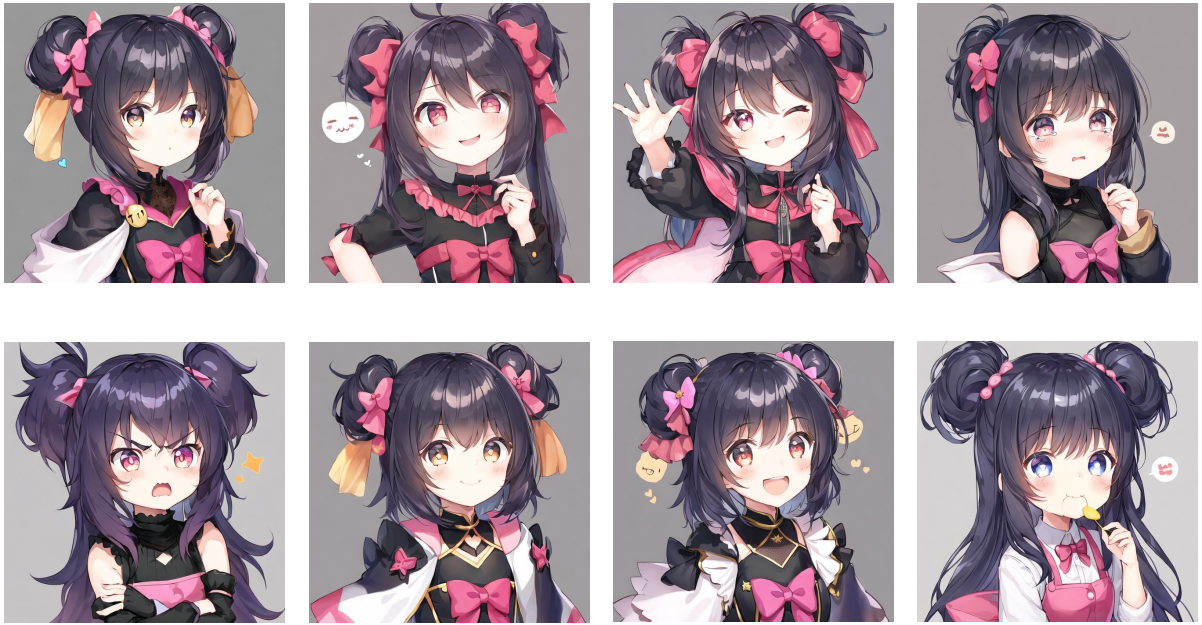
If possible, mix as **many media formats** as possible:

- Screenshots of 3D renders
- Pictures from 3D prints
- “Tradigital” painting
- Screenshots
- etc

TRAINING IMAGES (8)

OpenArt

Cute Anime Girl Sakura Model



Created these training images with OpenArt.

The first image was created by using **Anything V3 model** with the prompt ***1 girl, cute little girl, emoticons, simple background***. You can keep the seed the same and add modifiers on the base prompt to create other images. Only select the images that you think are similar enough to the original character since not all the images will be similar enough.

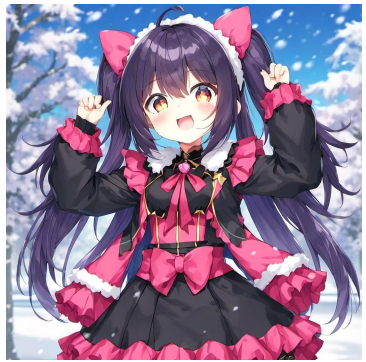
GENERATED IMAGES

OpenArt

Cute Anime Girl Sakura Model





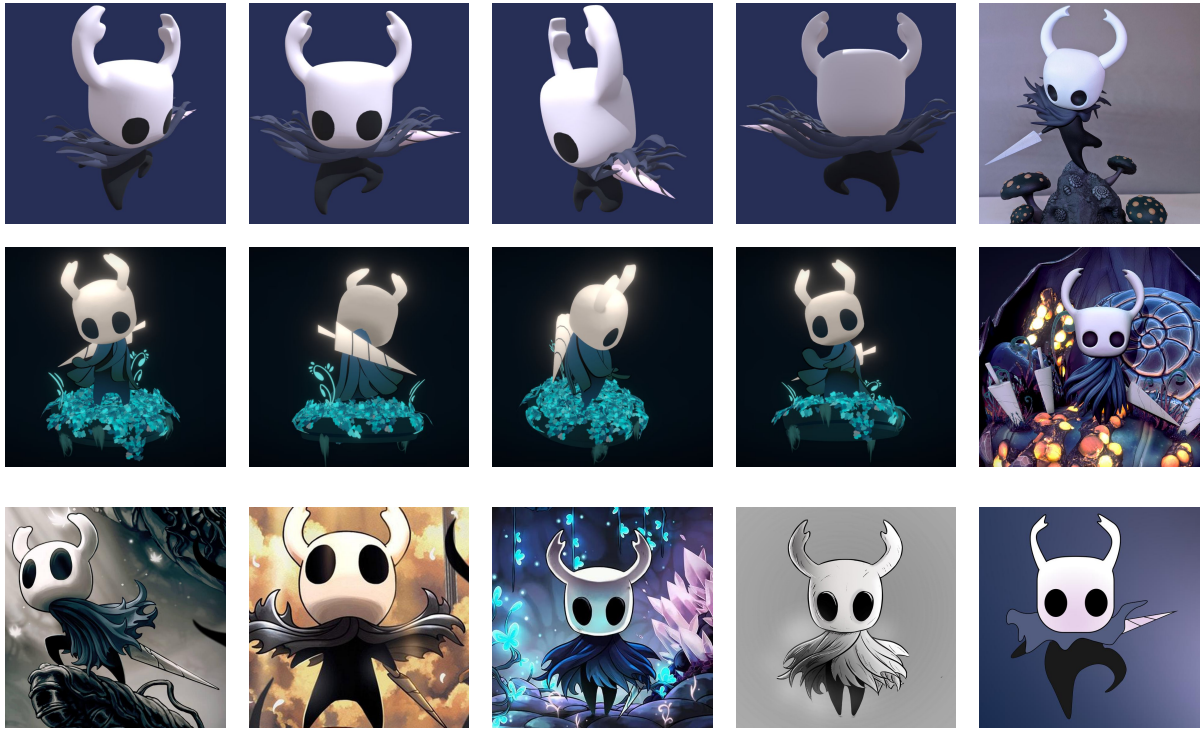
Even if the training images all look pretty similar, the AI-generated images can be way more diverse and very different from the training images.

The prompts are minimal too after you train a model. Like the first one is simply ***<mymodel> wears a Christmas hat***.

TRAINING IMAGES (32)

OpenArt

Hollow Knight



Curated these images from **Google** and **Sketchfab**.

Sketchfab allows you to take 360º shots from 3D models. Also included a 3D print and game's promo images, but cropped to isolate and focus the character.

With only 28 images wielding the sword, it's easy to "swap" and the subtle difference between horns is enough to swap them too .

GENERATED IMAGES

OpenArt

Hollow Knight






A good “benchmark“ after training any model should be “debugging” colors, lighting, places,different character actions, interactions and poses.

These prompts brings the protagonist to different scenarios which the color flexibility could be tested.

TRAINING IMAGES (5)

OpenArt

Calintz from Magna Carta

Curated these images from **Google**

Since nearly everything of the character shouldn't be swappable, every image contains nearly everything that resembles its major characteristics.
Zoom cropping isn't a good idea, since it may produce images with missing features, further teaching the model that those are swappable.
If you have a 3D model and the opportunity to render screenshots from multiple angles and poses, be careful when a core feature is occluded from point of view .
Try to input as many images as possible showing it's core features .

GENERATED IMAGES

OpenArt

Calintz from Magna Carta






With just a few images it's easy to always output something strongly biased towards the training images instead of a flexible model that allows you to "mix and match" new creative outputs. However, that behavior could be desirable and intended in some cases.

Those images are prompted like : ***A <mymodel> close-up portrait.***

OpenArt

05

Face Training

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of a kawaii hamster is wearing sunglasses on a orange background

OpenArt

Keys to train good person model

1.

Use photos with a **single well-lit human subject** without obstructions, like glasses, masks etc. No multiple people.

2.

Close-up and half-body images are more desirable than full-body images.
The Face must appear on all images as long as it's the most remarkable characteristic of the person

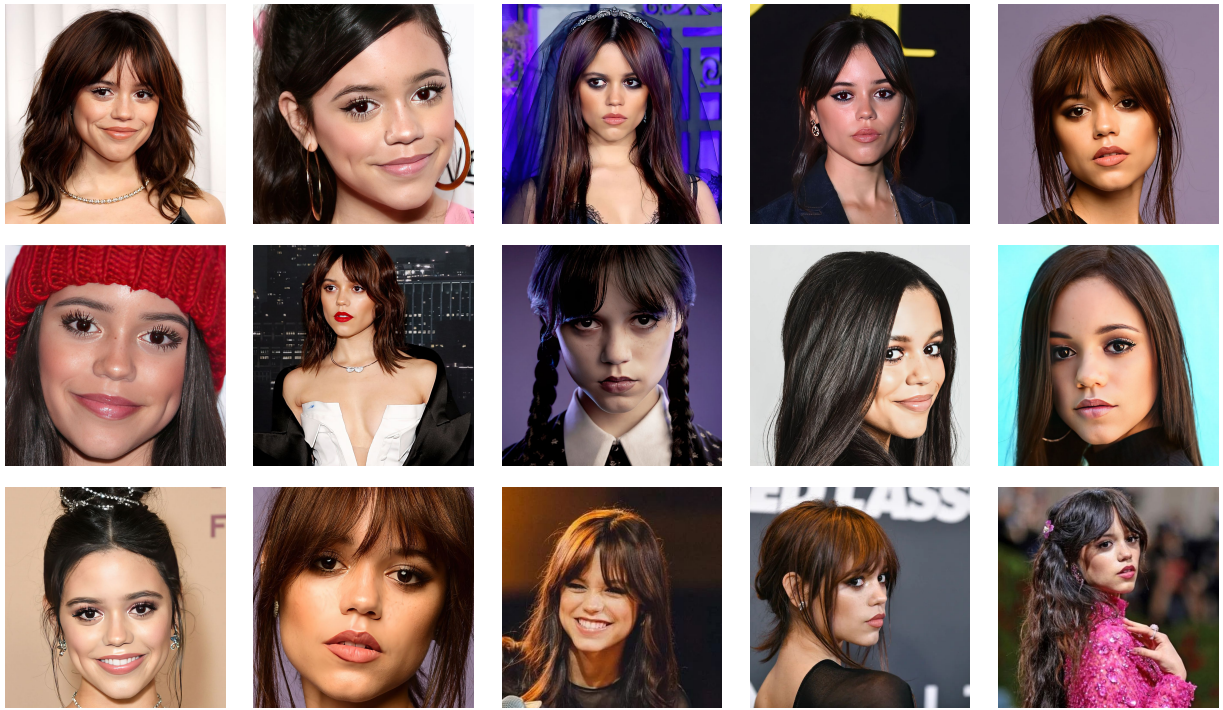
3.

Images must have a good **variety**: different outfits, hairstyles, backgrounds, lighting, facial expressions angles and poses .

TRAINING IMAGES (18)

OpenArt

Jenna Ortega



Curated these images from **Google**.

To enhance flexibility and fidelity, make sure the training images have different

- backgrounds/location
- lighting
- facial expressions
- head rotations
- clothes
- hairstyles
- makeup

etc.

OpenArt

Jenna Ortega

Prompt : <MyModel> as a _____ in the middle of a _____

TRAINING IMAGES (12)

OpenArt

Kevin James

Curated these images from **Google** .

When searching for images to build a dataset, make sure you choose "large" size in "tools" section of google images to find high resolution images that are 1024×1024 or larger, or you will get blurry results from your trained model!

GENERATED IMAGES

OpenArt

Kevin James

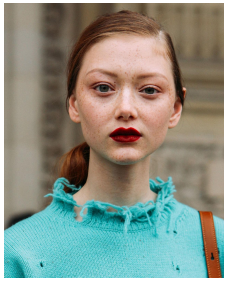
Prompt : Photo/painting of <MyModel> as a _____

TRAINING IMAGES (10)

OpenArt

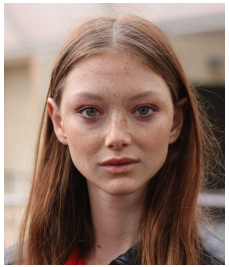
Sara Grace Wallerstedt












Curated these images from **Google.**

Humans have more details for AI to learn. You may need to increase the number of steps when generating images if you see artifacts. The default step on OpenArt is 40, but you can increase the steps up to 60 to enhance the details in the image.

OpenArt

Sara Grace Wallerstedt

Prompt : Photo/painting of <MyModel> as a _____

06 Object Training

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of kawaii bear with a guitar on a red background

OpenArt

Keys to train good object model?

1.

Have photos of the object from **different angles** and **different distances**. Upload **6-10 or more** images.

2.

Use a **single clear** english word for the **object prompt box**, like “car”, “mug”, “cat”. Don’t use your cat’s name “Lucy”.

3.

Objects should be **clearly differentiated from and stand out** against the background.

TRAINING IMAGES (15)

OpenArt

Goldendoodle Benny

These images were **taken by a phone**.

It's very important to have photos of different distance (close-ups, medium distance, and the full body.

Would recommend cropping these images before uploading to provide the variety.

GENERATED IMAGES

OpenArt

Goldendoodle Benny






Dogs/cats can have many details like their fur. If you see artifacts in your image, you can increase the step.

As you can see, you can make your pet do things that they would never do like riding a skateboard or cook your dinner for you :)

TRAINING IMAGES (15)

OpenArt

Car




Curated these images were obtained through **an online car-seller**, but you could also do these yourself with your phone or any camera.

On purpose we choose underlit pictures that were not the best quality to demonstrate that the training don’t have to be professionally taken.

GENERATED IMAGES

OpenArt

Car




Prompt : <MyModel> driving in ____

When your model is done, you can place it anywhere in the world, day or night. You can even change the car's color.

This is a great example of minimum effort and maximum result. Remember,only 6 pictures of mediocre quality were used.

The prompt was used is: ***<myprompt> driving in ____***.

TRAINING IMAGES (12)

OpenArt

Sports shoes

These images were obtained through **an online shoe-store**,but you could also do these yourself with any camera.

The images were large enough to cut out extra close-ups.

GENERATED IMAGES

OpenArt

Sports shoes






As you saw,the originals were greyscale,yet the AI has no trouble to render them out in any colour of your choice. As an extra you your AI model can already wear them.

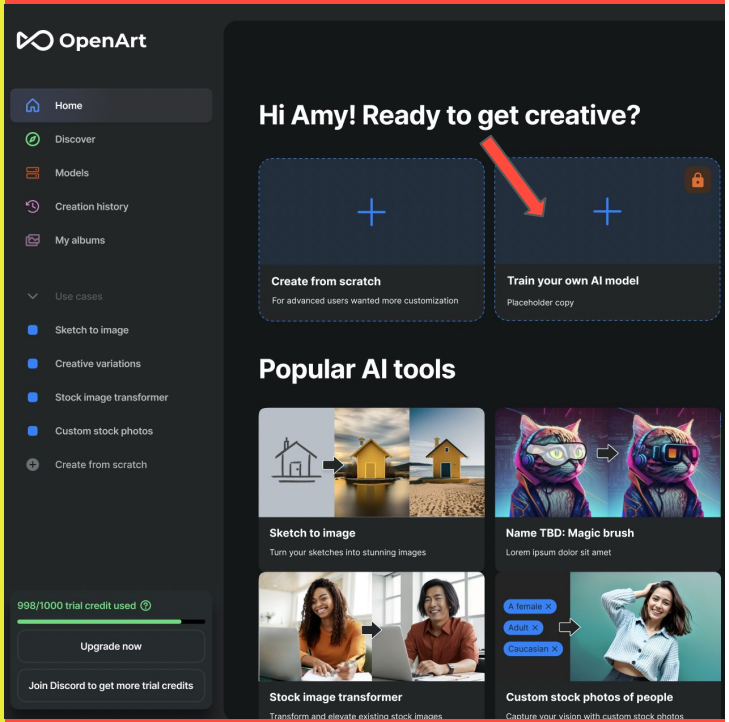
The prompt was used is: ***<myprompt> in amber worn by _____.***

07

Step-by-step guide

Model
Kawaii 3D

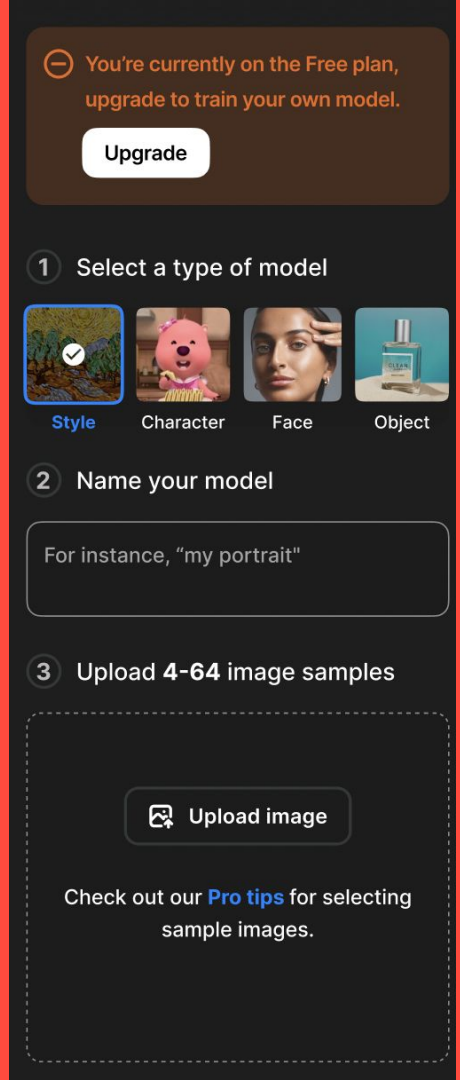
Prompt
<mymodel> a 3d render of kawaii monkey sitting in a frame on a yellow background



OpenArt

Step 1 - Visit OpenArt

Visit [OpenArt's Model Training page](#).

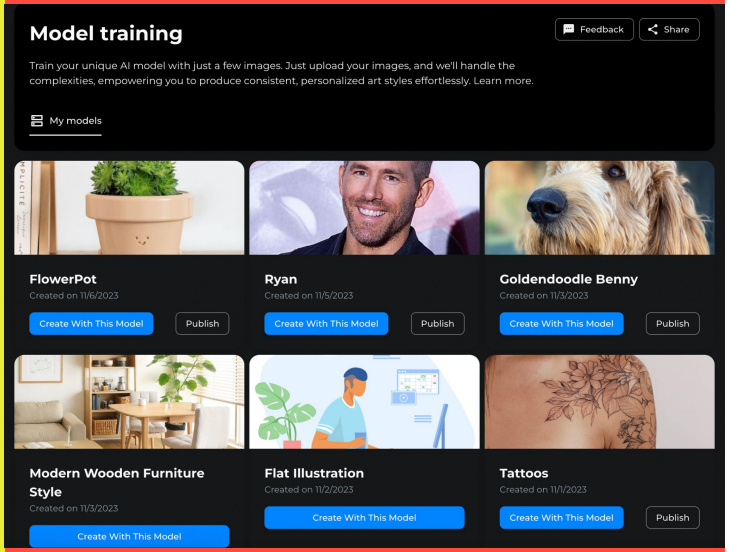


OpenArt

Step 2 - Train

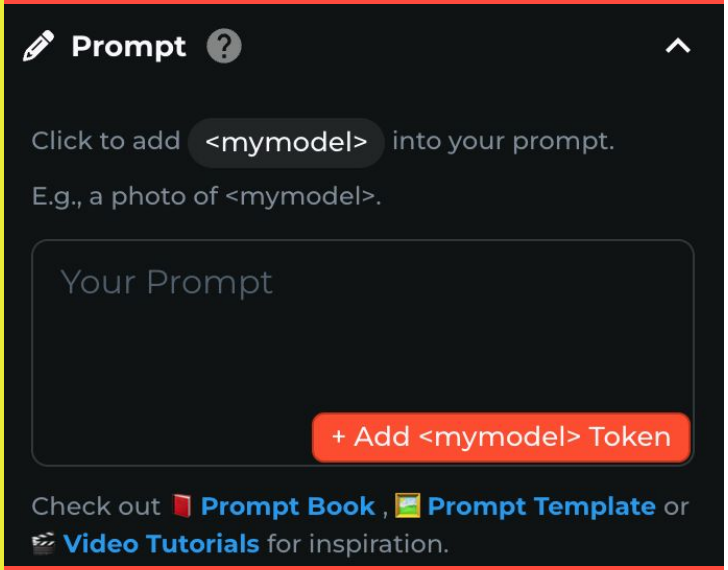
Choose the type model you want to train. Give it a name and upload all the training images.

Note that you do need to be a subscriber to train a model because it takes us non-trivial computing power to train a model, but we offer very competitive package and price.



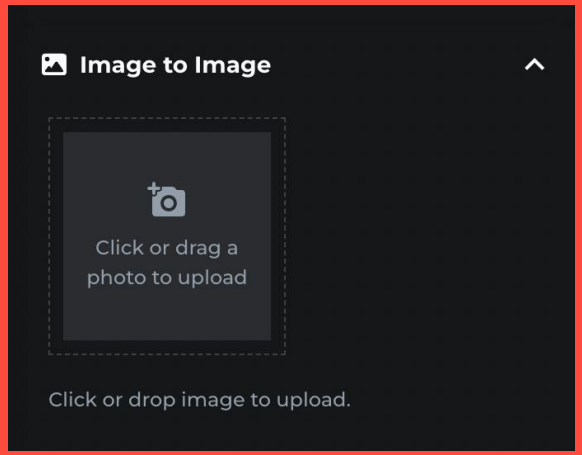
Step 2 - Wait

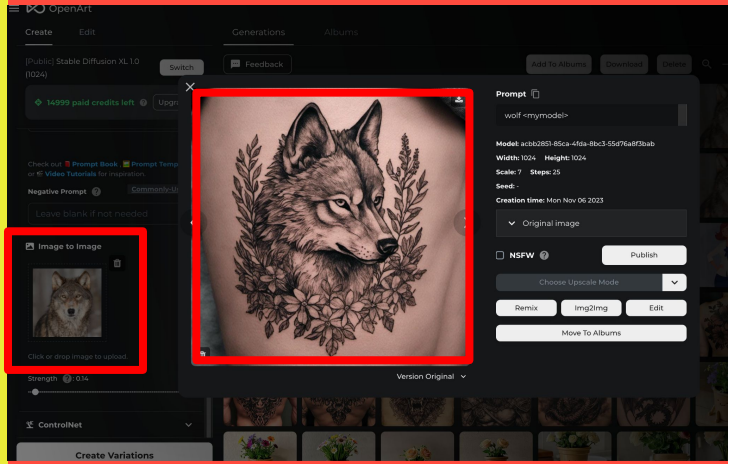
Wait for 5-15 min. After your model is done, you can see them on the right side. You can start creating by clicking the Create button.



Step 4 - Write a prompt

You will need to add **<mymodel>** in the prompt for the AI to trigger the model you trained. For example, if your model is a person, you can write ***<mymodel> wears a hat***. Throughout this book, you can see examples of the prompts.

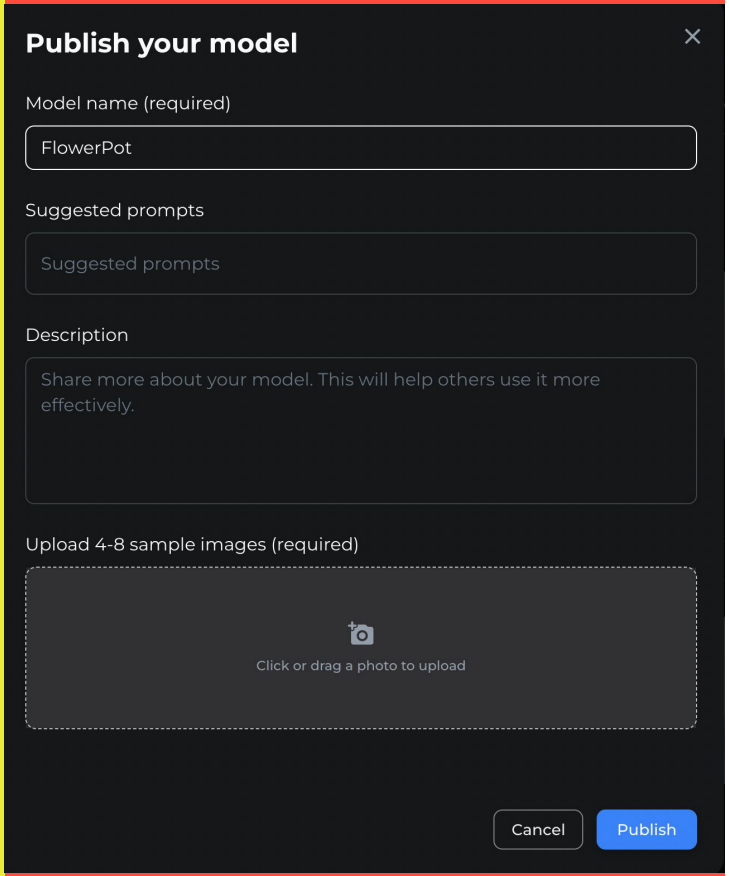




OpenArt

Step 5 - (optional) Give a reference image

You can also use img2img on your trained model. In this example, a wolf image on the Tattoo model gives a wolf tattoo that looks like the original image.



OpenArt

Step 6 - (optional) Publish your model

If you'd like to have more people use your model, you can publish it so that other OpenArt subscribers can use your model. All the community models will show up on the Models page.

OpenArt

08 OpenArt Showcase

Model
Kawaii 3D

Prompt
<mymodel> a 3d render of 2 kawaii floating ghosts on an orange background





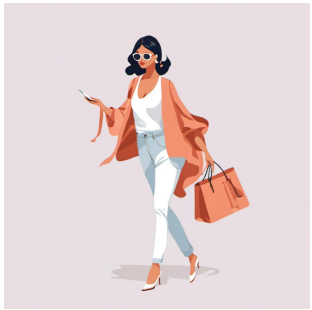

OpenArt

Model: 3D cuteness

Description: Generates cute 3D characters and scenes with some kawaii flavour..

An example prompt: <mymodel> a 3d render of kawaii bear with a guitar on a red background.

Create with this model now



Model: Flat Illustration

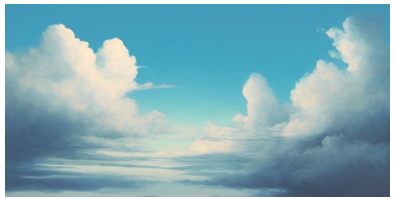
Description: Generates clean, beautiful and creative flat illustrations easily.

An example prompt: <mymodel> a fashionable lady, flat illustration, clean background

Create with this model now








OpenArt

Model: Aquarelle/watercolour

Description: Generates watercolours.

An example prompt: <mymodel> portrait of a victorian lady

Create with this model now

OpenArt

Model: Complex Character Designs

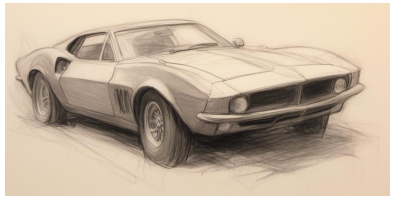
Description: A model with images from RPG Tabletop games, focusing on equipment and characters .

An example prompt: An anthropomorphic walrus in <mymodel> artstyle .

Create with this model now








OpenArt

Model: sketch

Description: Generates academic sketches.

An example prompt: <mymodel>
pencil-sketch of a ruin of a Roman temple

Create with this model now






OpenArt

Model: Impressionism

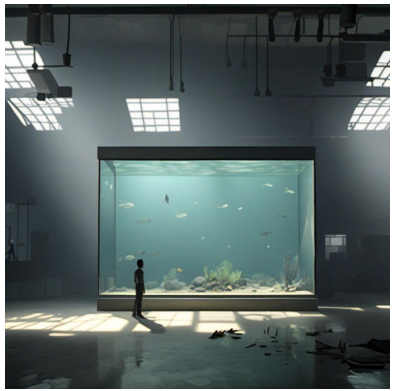
Description: Generates loosely painted impressionistic paintings.

An example prompt: <mymodel> poppy flowers

Create with this model now








OpenArt

Model: Inside - game

Description: Generates scene in the style of “Inside” game by Playdead

An example prompt: car parked in a warehouse in the style of <mymodel>.

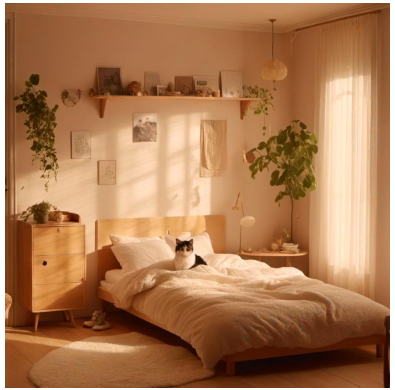
Create with this model now

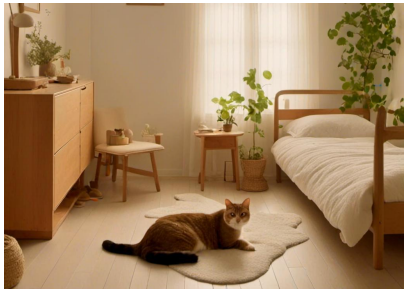
Model: Tattoos

Description: This model allows you to generate creative tattoos easily. Never run out of idea for your next new tattoo.

An example prompt: <mymodel> a tattoo of a skull and rose.

Create with this model now





Model: Modern Wooden Furniture Style

Description: The model allows you to create both charming wooden-style furniture and contemporary Japanese-inspired room designs.

An example prompt: Living room in the style of <mymodel>

Create with this model now






OpenArt

Model: Junkpunk

Description: Generates images from a post apocalyptic dieselpunk era .

An example prompt: A huntress in <mymodel> artstyle

Create with this model now

OpenArt

Model: Spellpunk

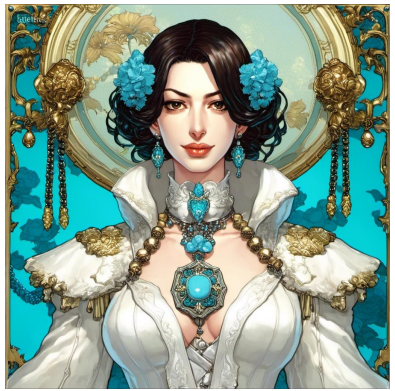
Description: Generates images with many special effects and particles interacting with books, hands, objects and flowy floating elements

An example prompt: A witch summoning a walrus in <mymodel> artstyle.

Create with this model now





OpenArt

Model: Detailed Costume Designer

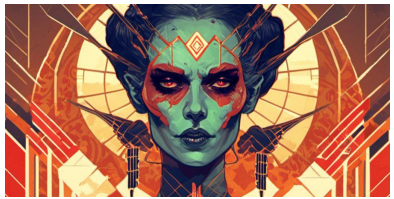
Description: Generate images of complex costume designs .

An example prompt: A turnaround reference sheet for the concept character design of a <mymodel> sorceress

Create with this model now








OpenArt

Model: Geometric

Description: Generates images integrated with geometrical features .

Suggested prompt: A couple of lovers back to back in <mymodel> artstyle

Create with this model now

Find more on our [models page]

End

Thanks for reading the model training book. Please remember to share with others.

A special shout-out to Stability AI for empowering our model tuning backend.

If you want to write better prompts, we also published a Prompt Book before. Visit https://openart.ai for more resources and tools.

Join our Discord server to give any feedback and claim free trial credits.