DE MAGIE ACHTER AFBEELDINGS-GENERATOREN

Thomas Winters

PhD Student in creative artificial intelligence @ KU Leuven

@thomas_wint
thomaswinters.be

Wie gebruikt er technologie in hun creatieve proces?



Wie gebruikt er synoniemensites? Spellchecker? Fotobewerking? Pinterest? Google Images? Google voor associaties?



PRACHTIGE & DIVERSE KUNST IN SECONDEN











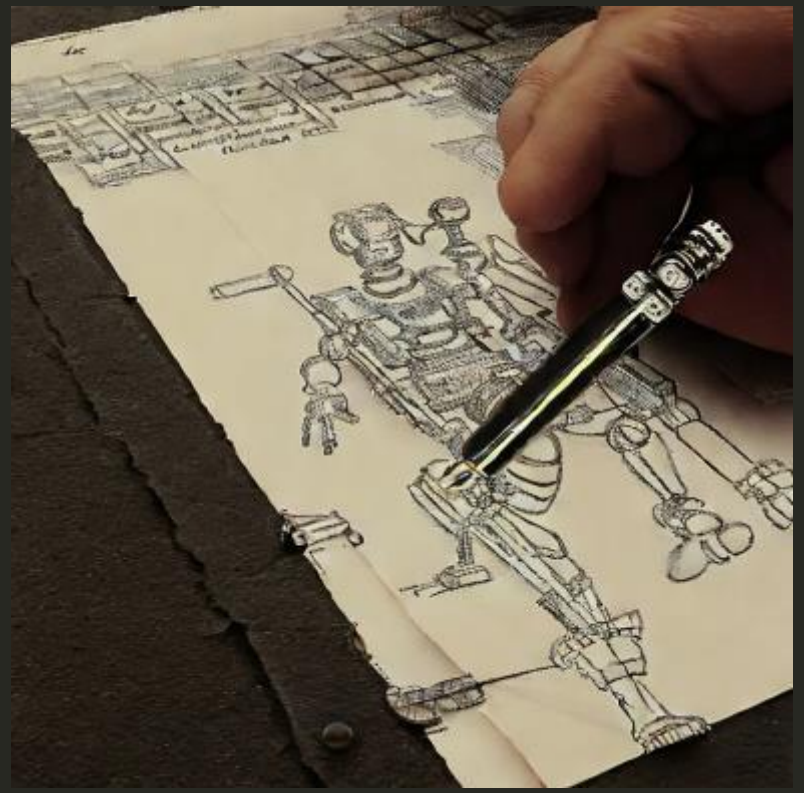


https://labs.openai.com
https://huggingface.co/spaces/stabilityai/stable-diffusion

OVERVIEW



Een korte geschiedenis

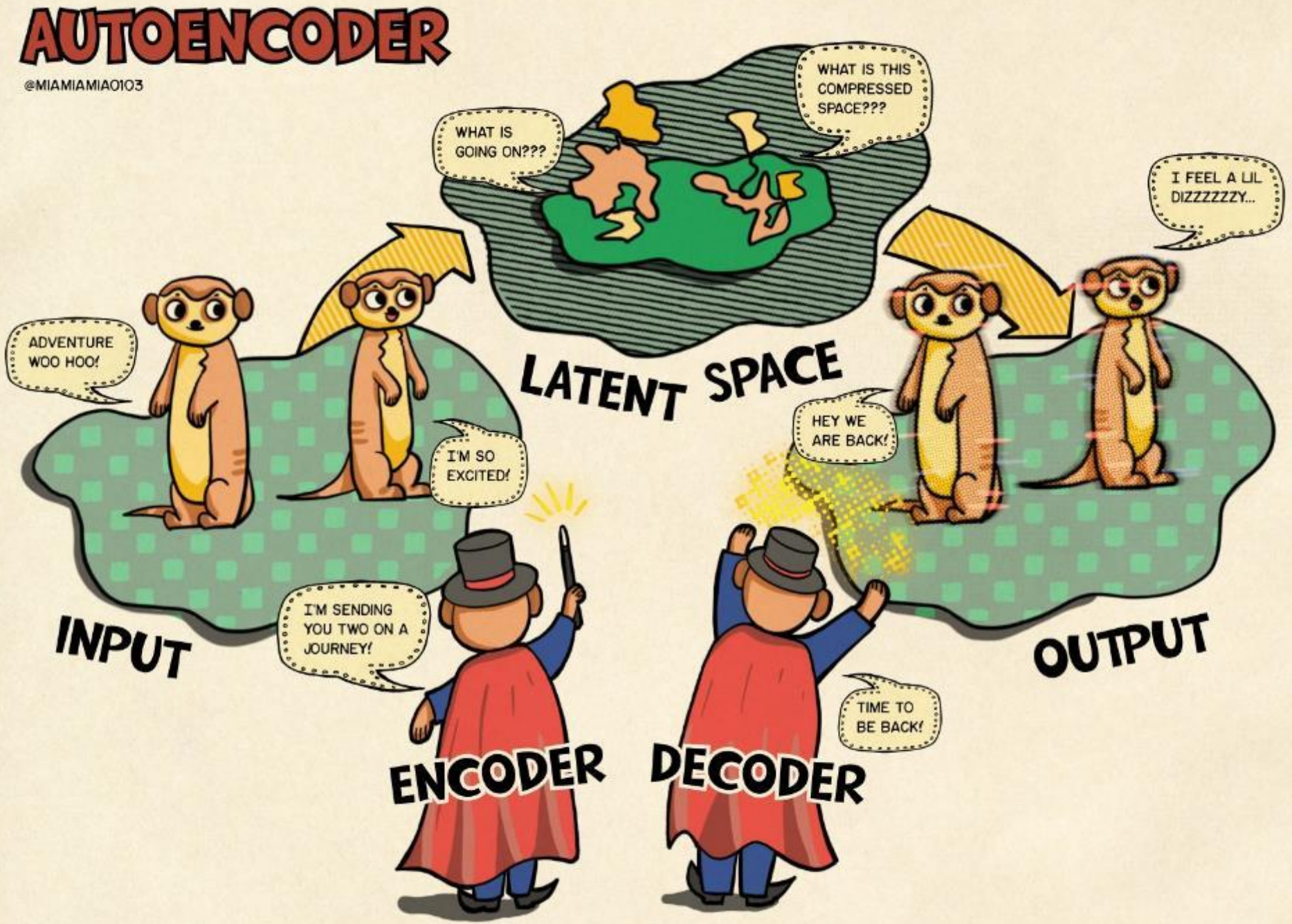


Prompt engineering

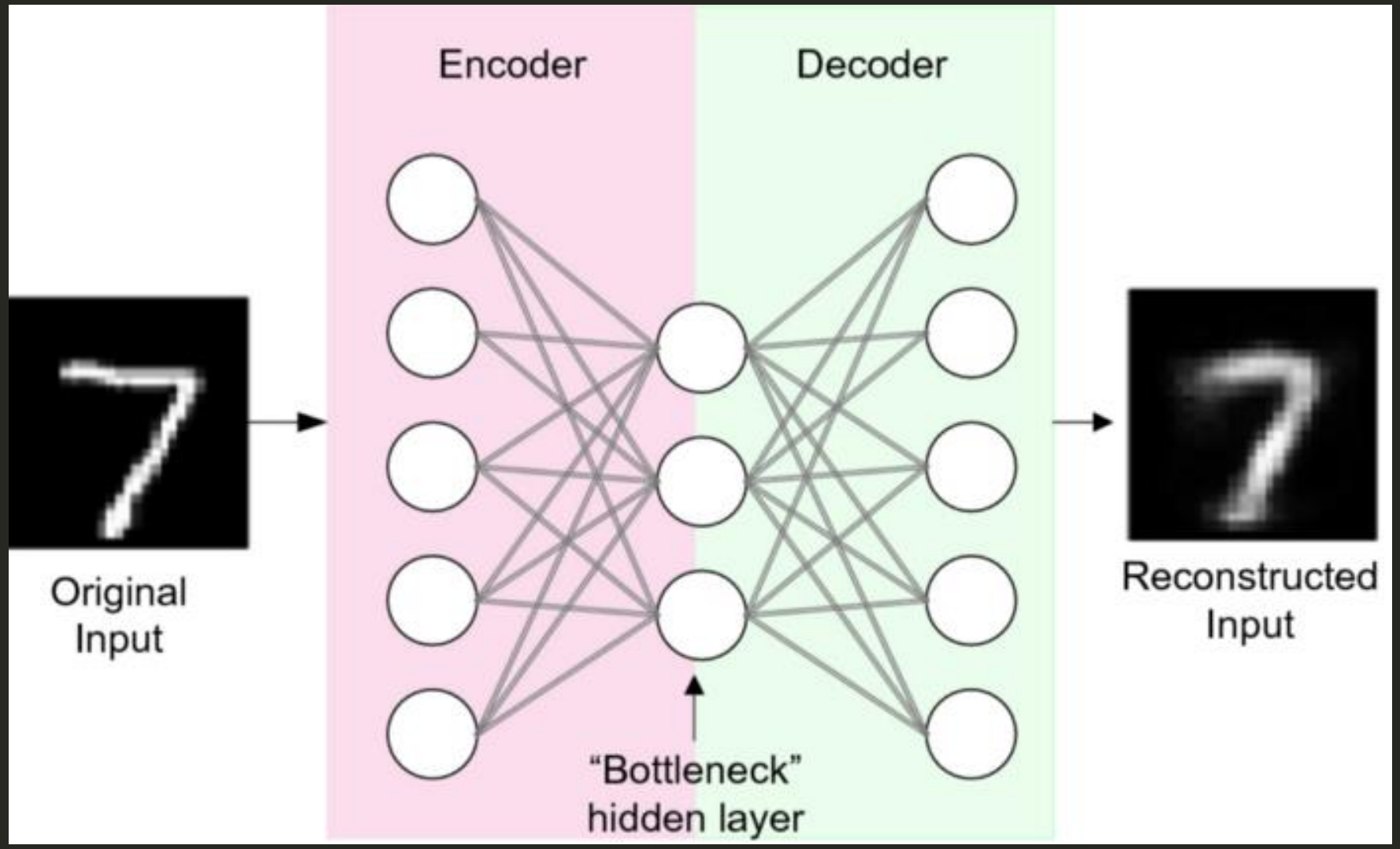


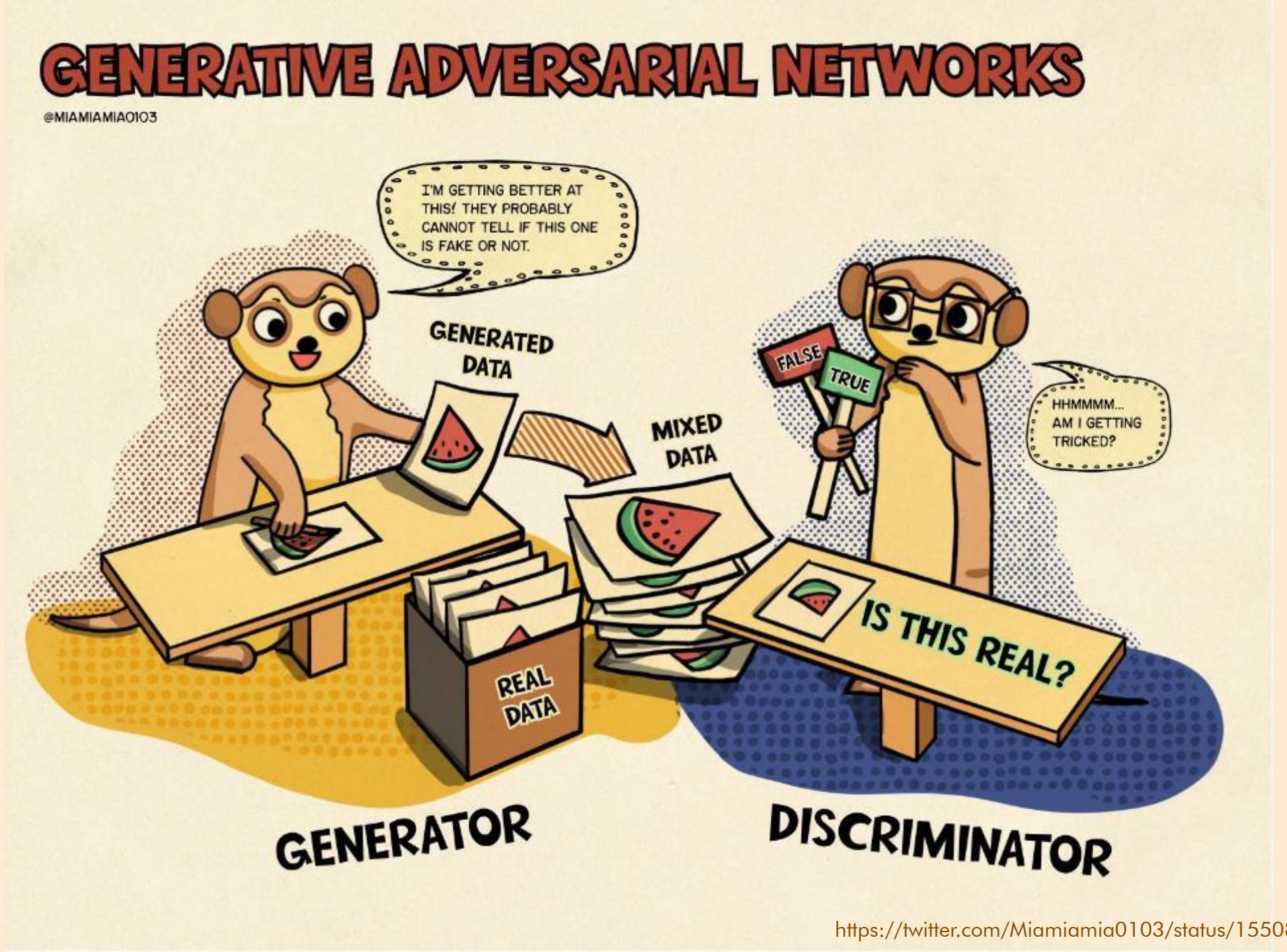
Applicaties

IMAGE GENERATORS: WAAR KOMEN ZE VANDAAN?



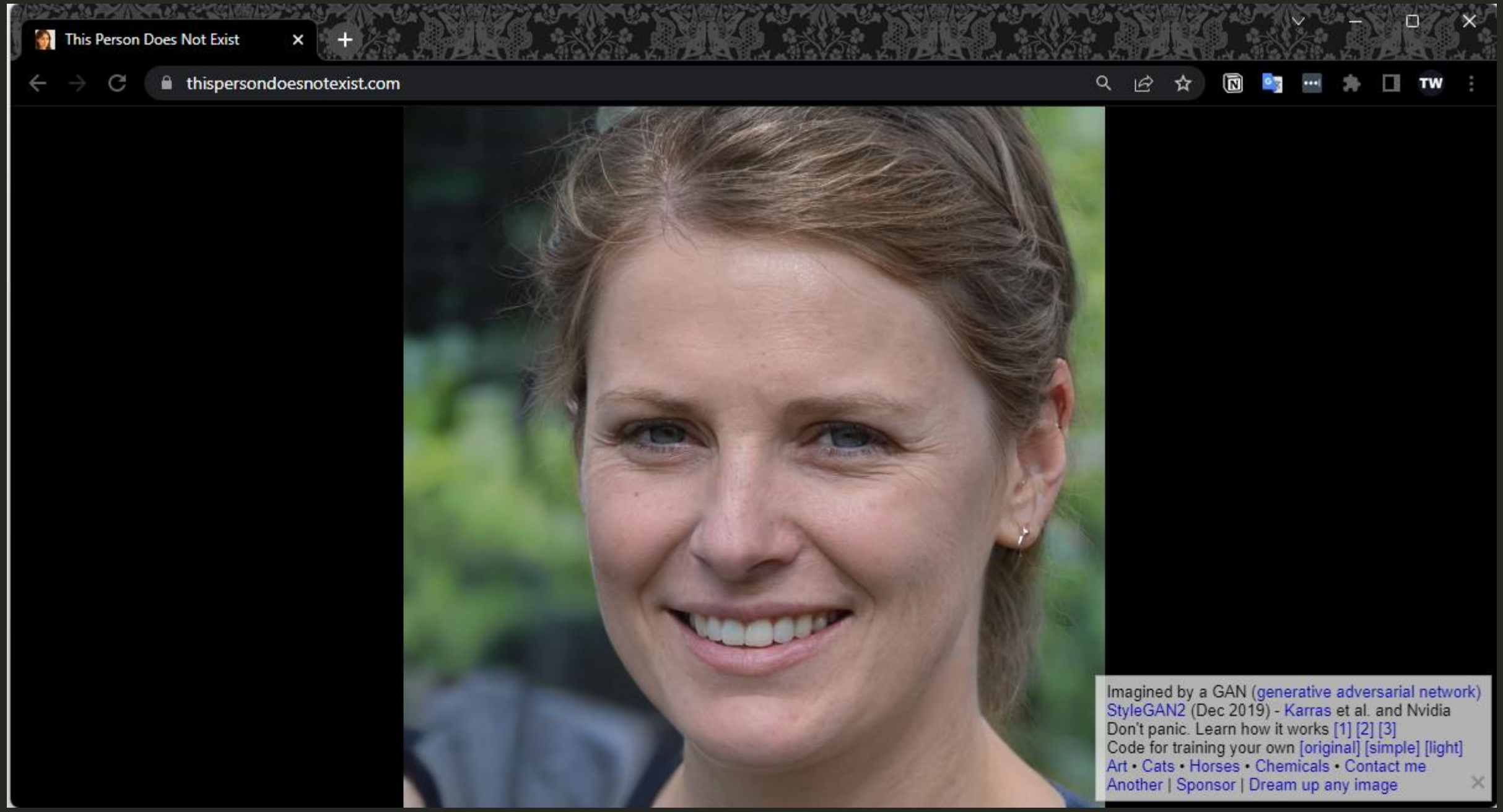
https://twitter.com/Miamiamia0103/status/1550863605519847427


Encoder
Decoder
Original
Input
"Bottleneck"
hidden layer
Reconstructed
Input

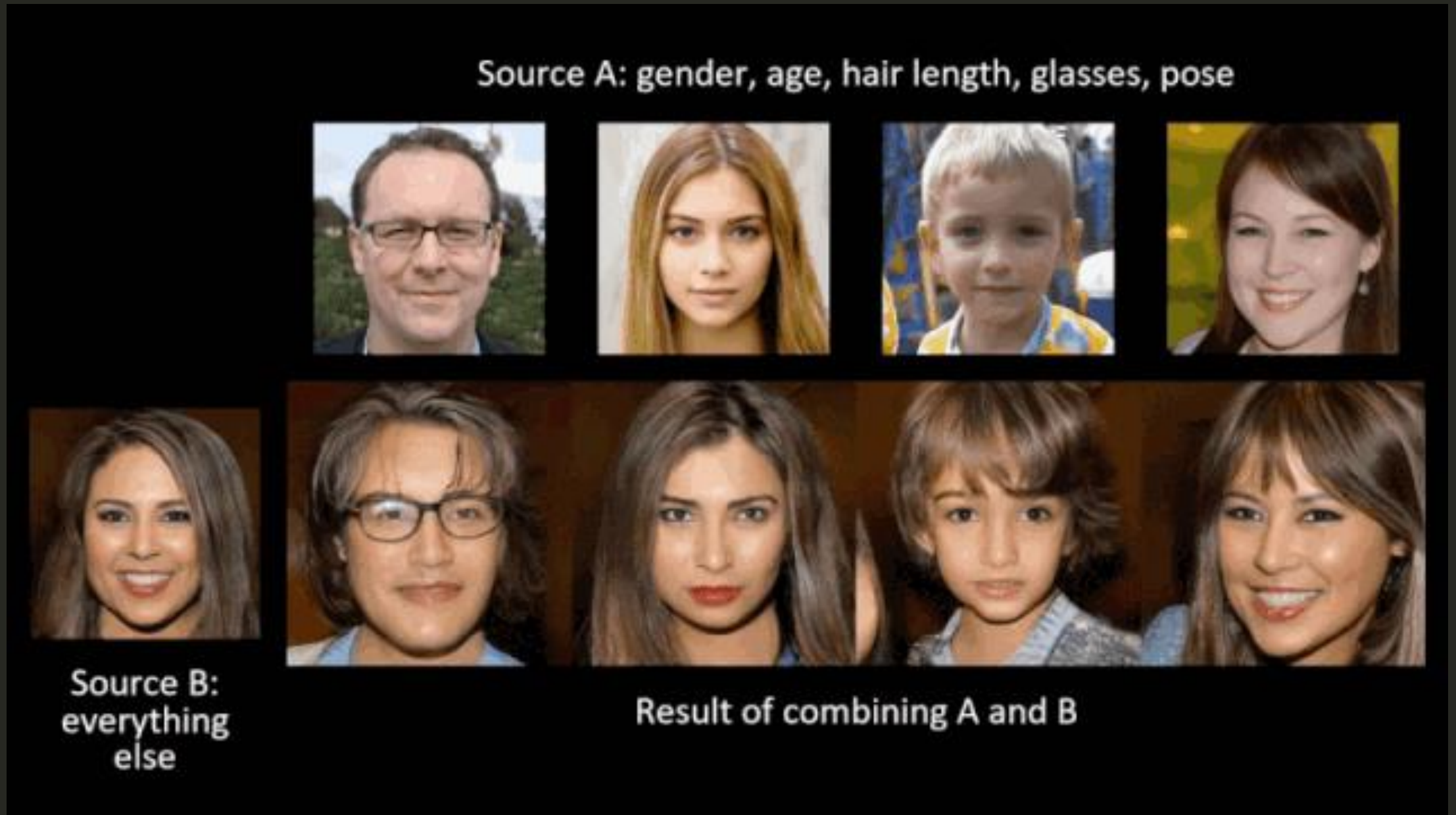


https://twitter.com/Miamiamia0103/status/1550863605519847429

THISPERSONDOESNOTEXIST.COM



STYLEGAN (2018): PUUR VOOR GEZICHTEN



POKEGAN (2019)

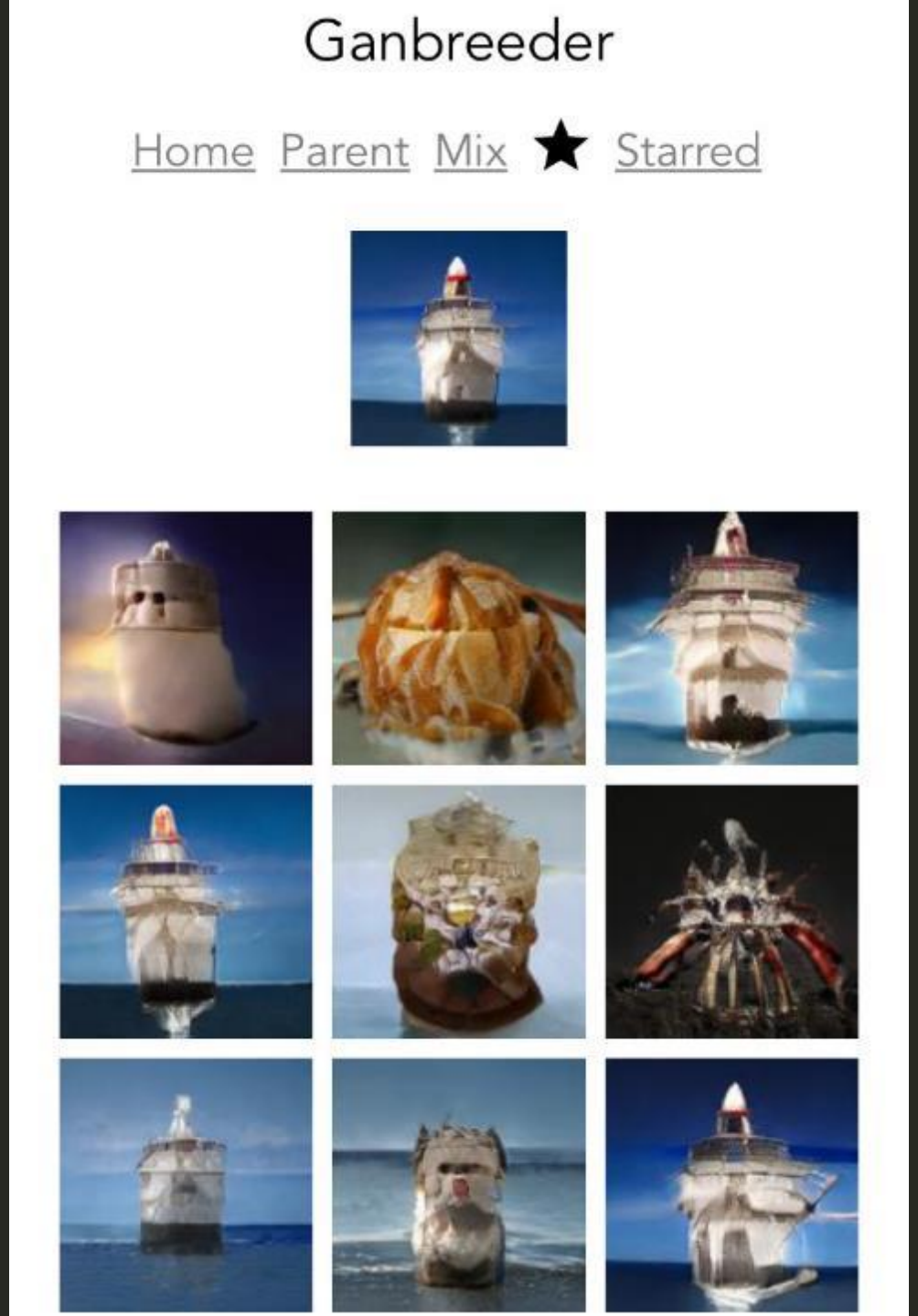


https://futurism.com/the-byte/neural-network-pokemon

CONDITIONAL GANS



https://www.youtube.com/watch?v=LR5f3-5vB_U



Mix % van categorieën

Maak variaties

Mix twee afbeeldingen

DIFFUSIE REVOLUTIE

DALL-E 1 (JANUARI 2021)

TEXT PROMPT an illustration of a baby daikon radish in a tutu walking a dog

AI-GENERATED IMAGES



Edit prompt or view more images↓

TEXT PROMPT an armchair in the shape of an avocado. . . .

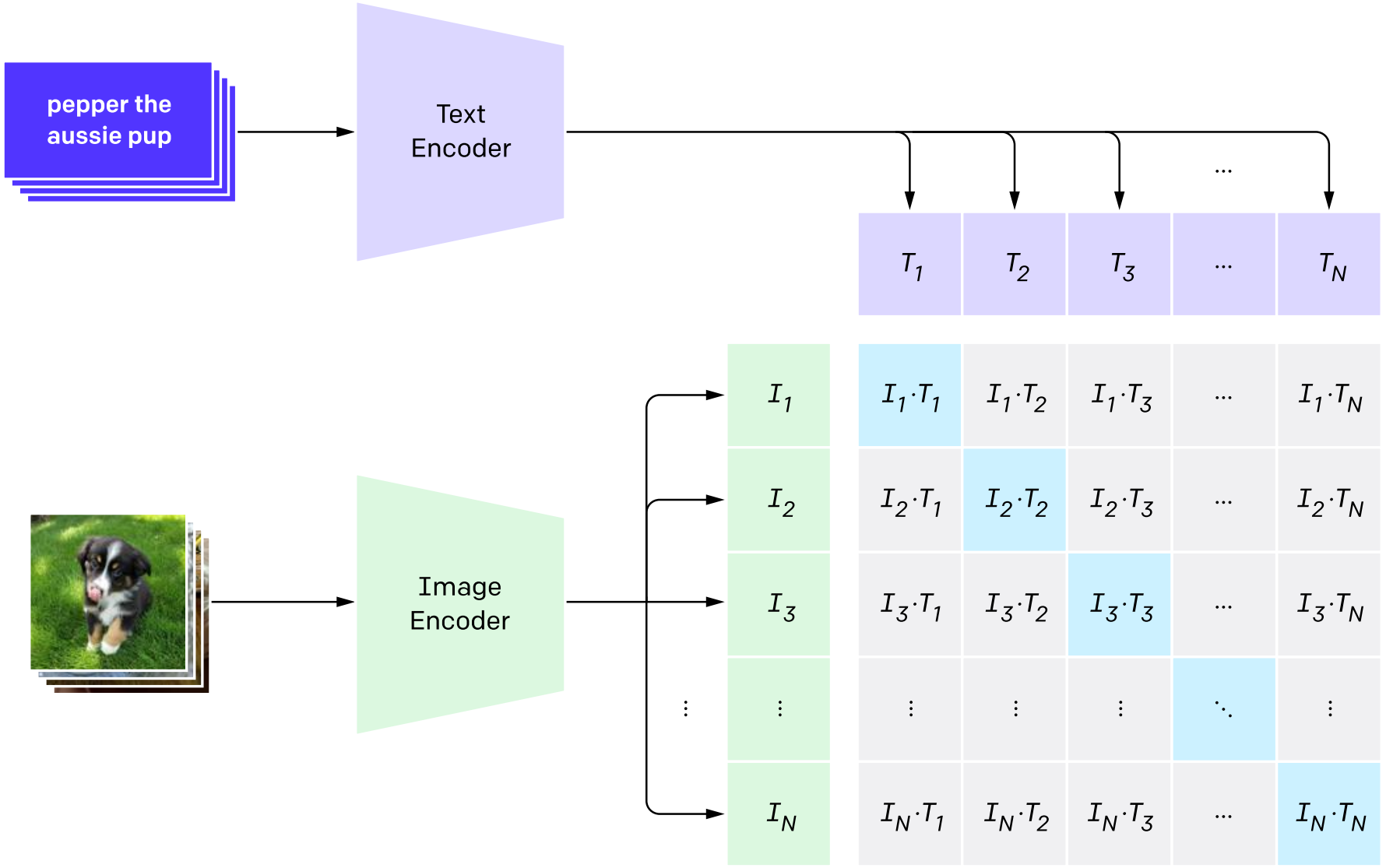
AI-GENERATED IMAGES

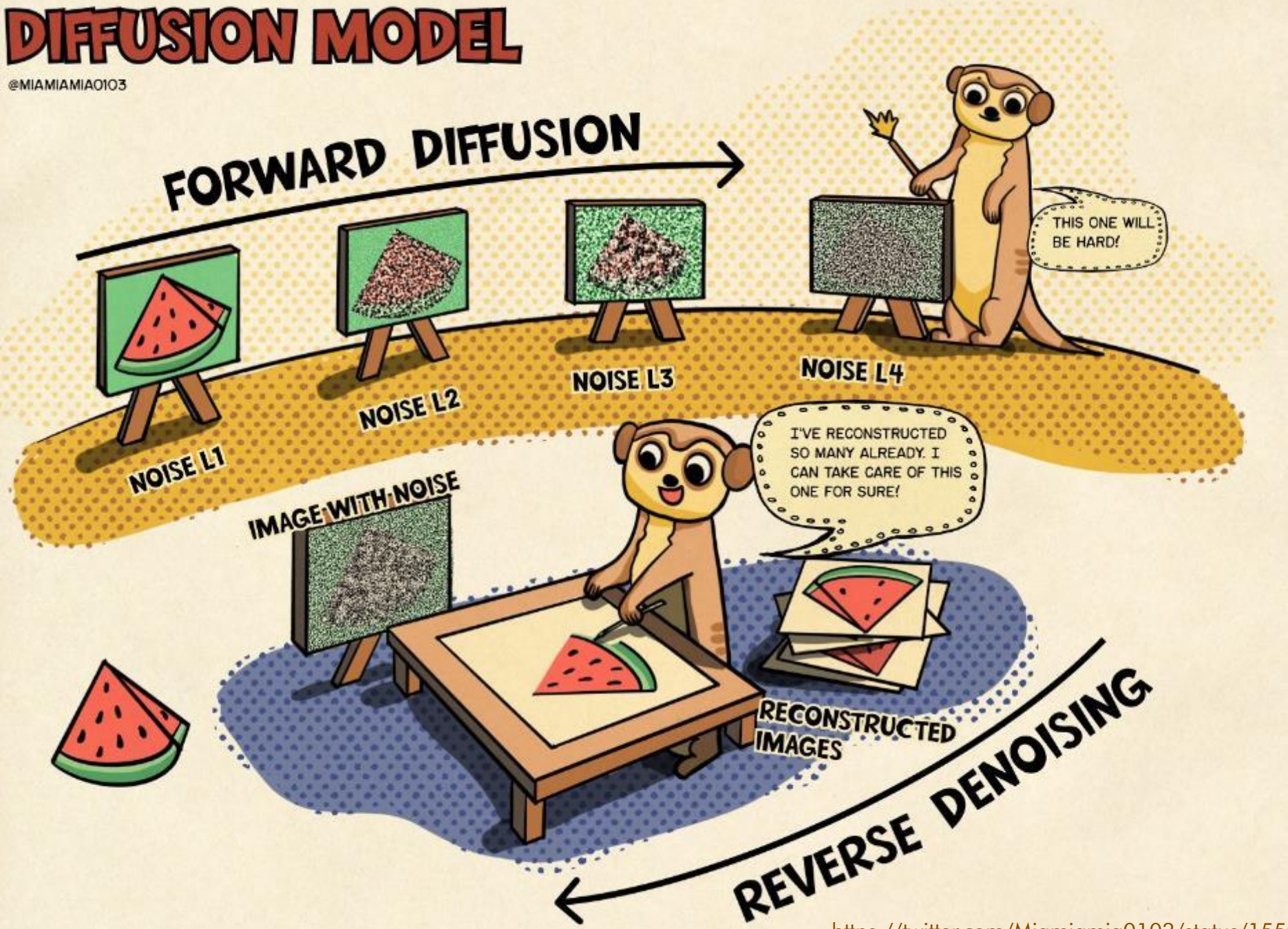


Edit prompt or view more images↓

CLIP: CONNECTS TEXT & IMAGES

1. Contrastive pre-training





https://twitter.com/Miamiamia0103/status/1550863605519847425

DALL-E 2 & STABLE DIFFUSION

an renaissance painting of a squirrel giving a talk about artificial intelligence, by Sandro Botticelli

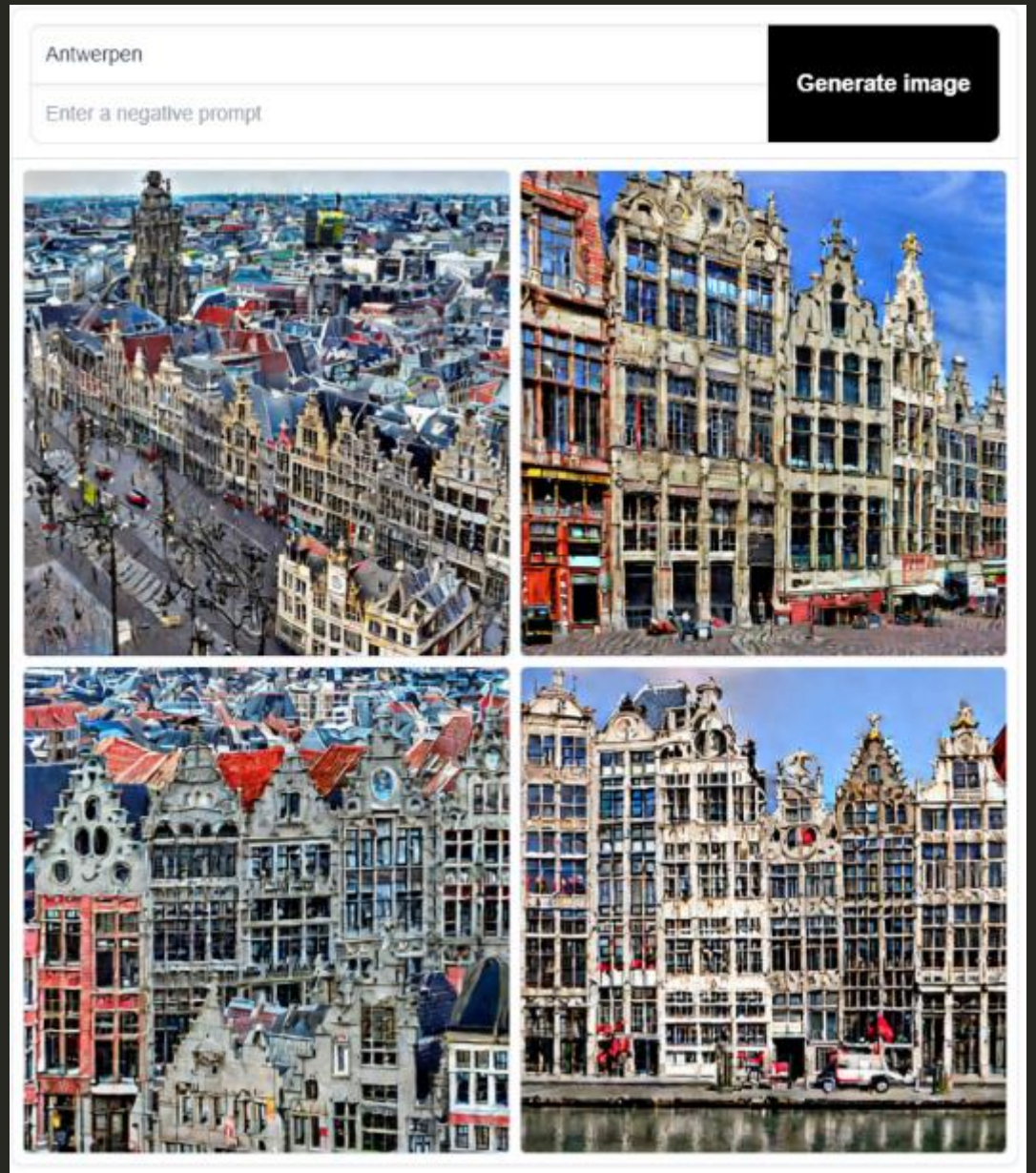
Generate

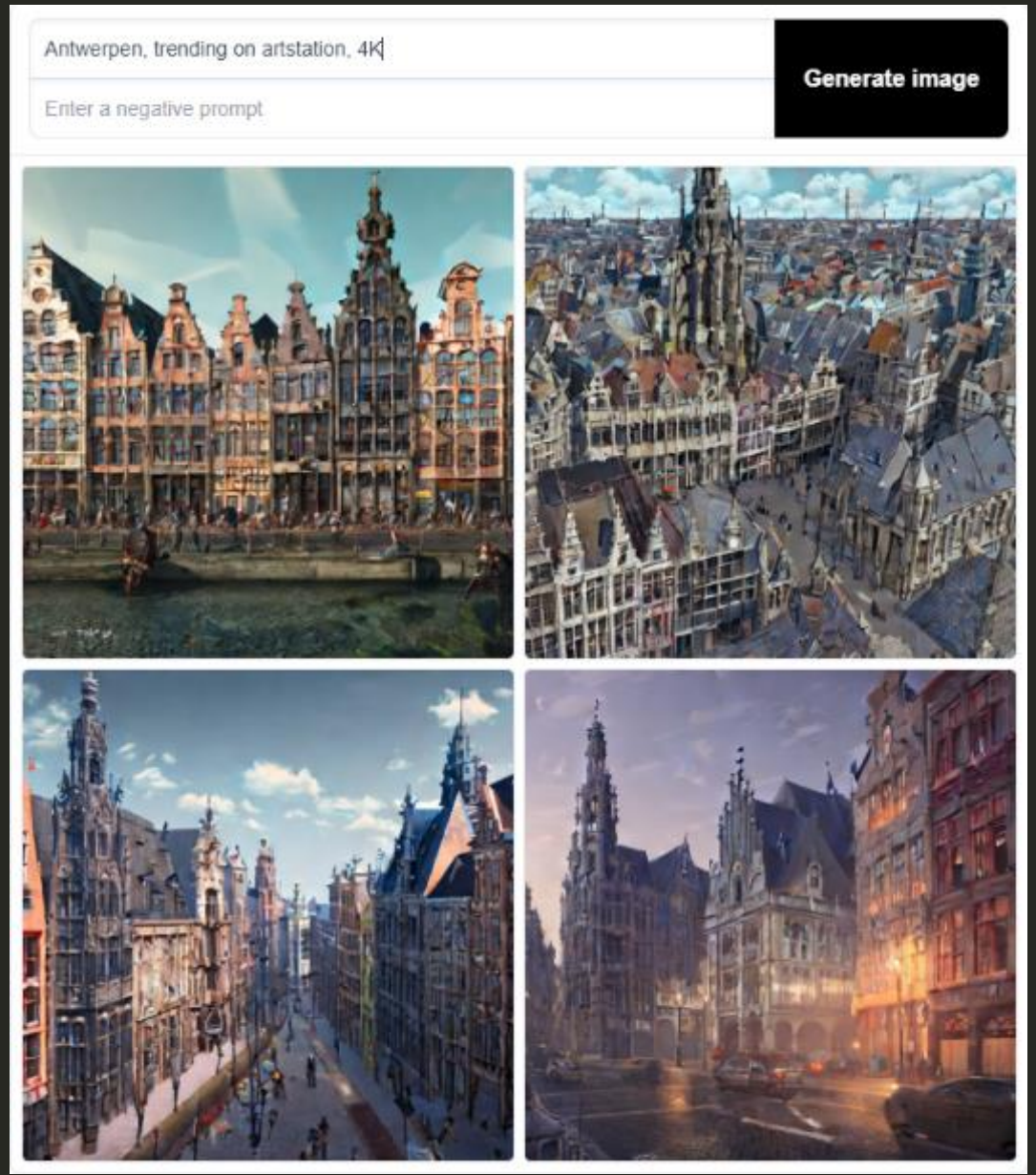





https://labs.openai.com/ & https://huggingface.co/spaces/stabilityai/stable-diffusion

“TRENDING ON ARTSTATION, 4K”







Emotional prompt words

dall·ery gall·ery



Positive mood, low energy 😌
light, peaceful, calm, serene, soothing, relaxed, placid, comforting, cosy, tranquil, quiet, pastel, delicate, graceful, subtle, balmy, mild, ethereal, elegant, tender, soft, light



Positive mood, high energy 🤩
bright, vibrant, dynamic, spirited, vivid, lively, energetic, colorful, joyful, romantic, expressive, bright, rich, kaleidoscopic, psychedelic, saturated, ecstatic, brash, exciting, passionate, hot



Negative mood, low energy 😳
muted, bleak, funereal, somber, melancholic, mournful, gloomy, dismal, sad, pale, washed-out, desaturated, grey, subdued, dull, dreary, depressing, weary, tired



Negative mood, high energy 😱
dark, ominous, threatening, haunting, forbidding, gloomy, stormy, doom, apocalyptic, sinister, shadowy, ghostly, unnerving, harrowing, dreadful, frightful, shocking, terror, hideous, ghastly, terrifying

dall·ery gall·ery

Looks, vibes, -punks, -waves

😍 Check out this huge list!



Vaporwave: neon, pink, blue, geometric, futuristic, 80s.



Post-apocalyptic: grey, desolate, stormy, fire, decay



Gothic, fantasy: stone, dark, lush nature, mist, mystery, angular



Cybernetic, sci-fi: glows, greens, metals, armor, chrome



Steampunk: gold, copper, brass, Victoriana.



Memphis: Memphis Group, 1980s, bold, kitsch, colourful, shapes



Dieselpunk: grimy, steel, oil, '50s, mechanised, punk cousin of steampunk



Afrofuturism: futuristic, and African



Cyberpunk, 1980s, dyed hair, spiky, graphic elements



Biopunk, organic: greens, slimes, plants, futuristic, weird

dall·ery gall·ery

Camera settings + lenses

dall·ery gall·ery



Fast shutter speed, high speed, action photo, 1/1000 sec shutter



Slow shutter speed, 1 sec shutter, long exposure



Bokeh, shallow depth of field, blur, out-of-focus background (via)



Tilt shift photography (via)
Makes a narrow strip in focus



Motion blur
(Source)



Telephoto lens, Sigma 500mm f/5
Shot from afar, feels 'voyeuristic'



Macro lens, macro photo (source)
Sigma 105mm F2.8 - for small scenes



Wide angle lens, 15mm (source)
Fits more of the scene in the frame

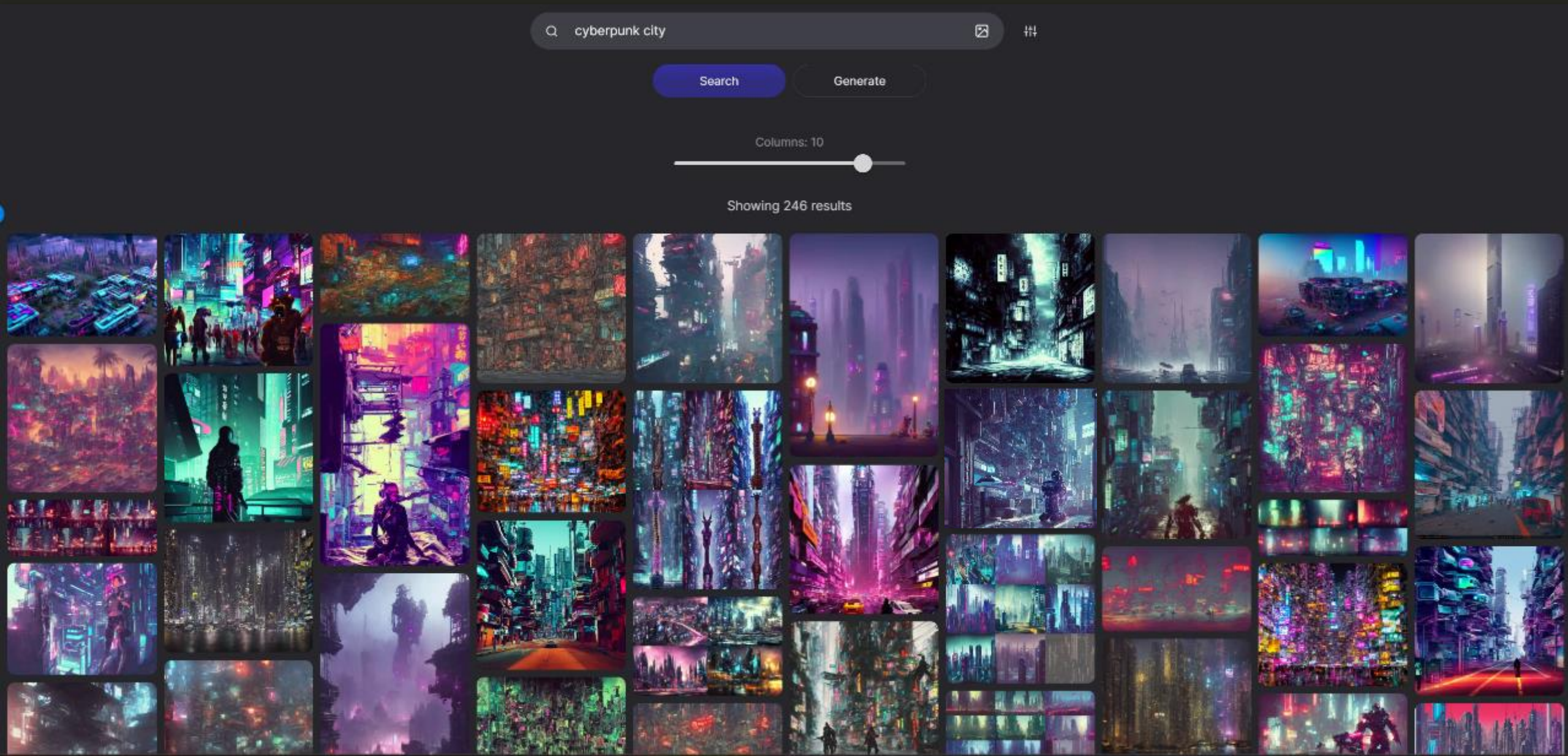


Fish-eye lens: distorts the scene, vv. wide angle, the centre 'bulges'



Deep depth of field, f/22, 35mm
Make all elements sharp

LEXICA: PROMPT ZOEKMACHINE



Hyperrealism stock photography of highly detailed stylish robot in cyberpunk sci - fi style by gragory crewdson and katsuhiro otomo, mike winkelmann with many details by josan gonzalez working at the highly detailed data center by mike winkelmann and laurie greasley hyperrealism photo on dsmc 3 system rendered in blender and octane render

Generate | Copy prompt

Explore this style >

Seed
1011615474

Guidance scale
13

Dimensions
768 × 704



ZONDER & MET LEXICA “CYBERPUNK”

Antwerpen

Enter a negative prompt

Generate image



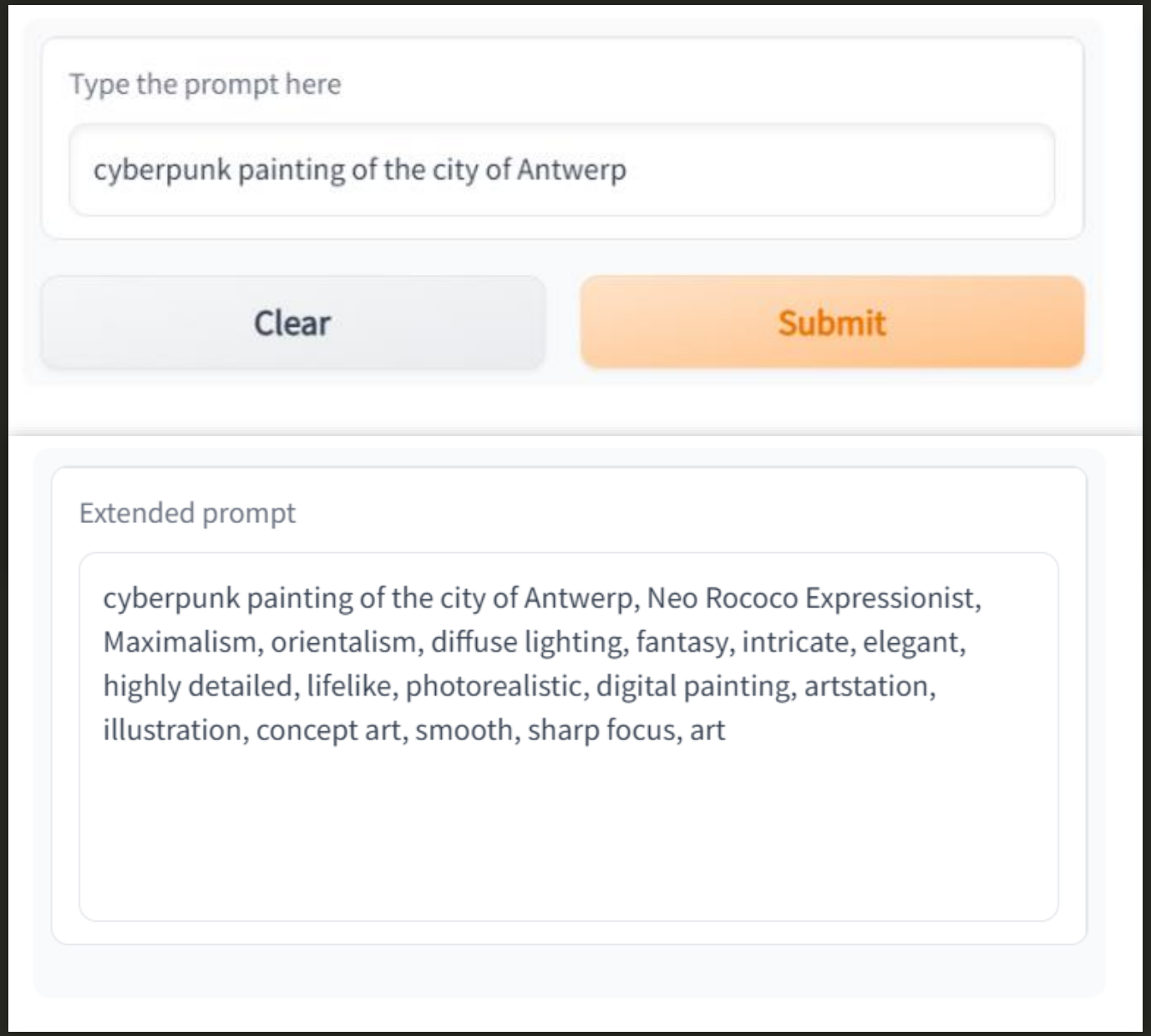
hyperrealism stock photography of highly detailed city of Antwerp in cyberpunk

Enter a negative prompt

Generate image



PROMPT EXTENDER



PROMPT EXTENDER

Type the prompt here

cyberpunk painting of the city of Antwerp

Clear | Submit

Extended prompt

cyberpunk painting of the city of Antwerp, Neo Rococo Expressionist, Maximalism, orientalism, diffuse lighting, fantasy, intricate, elegant, highly detailed, lifelike, photorealistic, digital painting, artstation, illustration, concept art, smooth, sharp focus, art

cyberpunk painting of the city of Antwerp, Neo Rococo Expressionist, Maximalis

Enter a negative prompt

Generate image

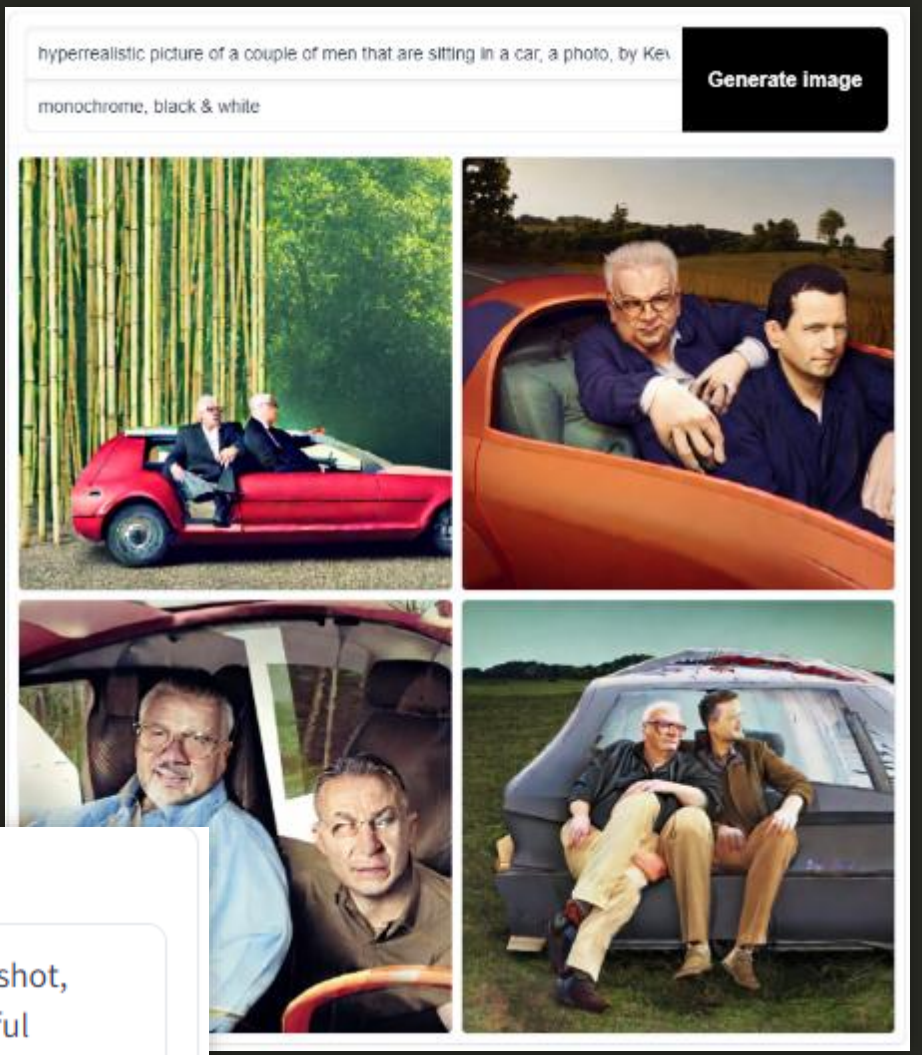


CLIP INSPECTOR



Output

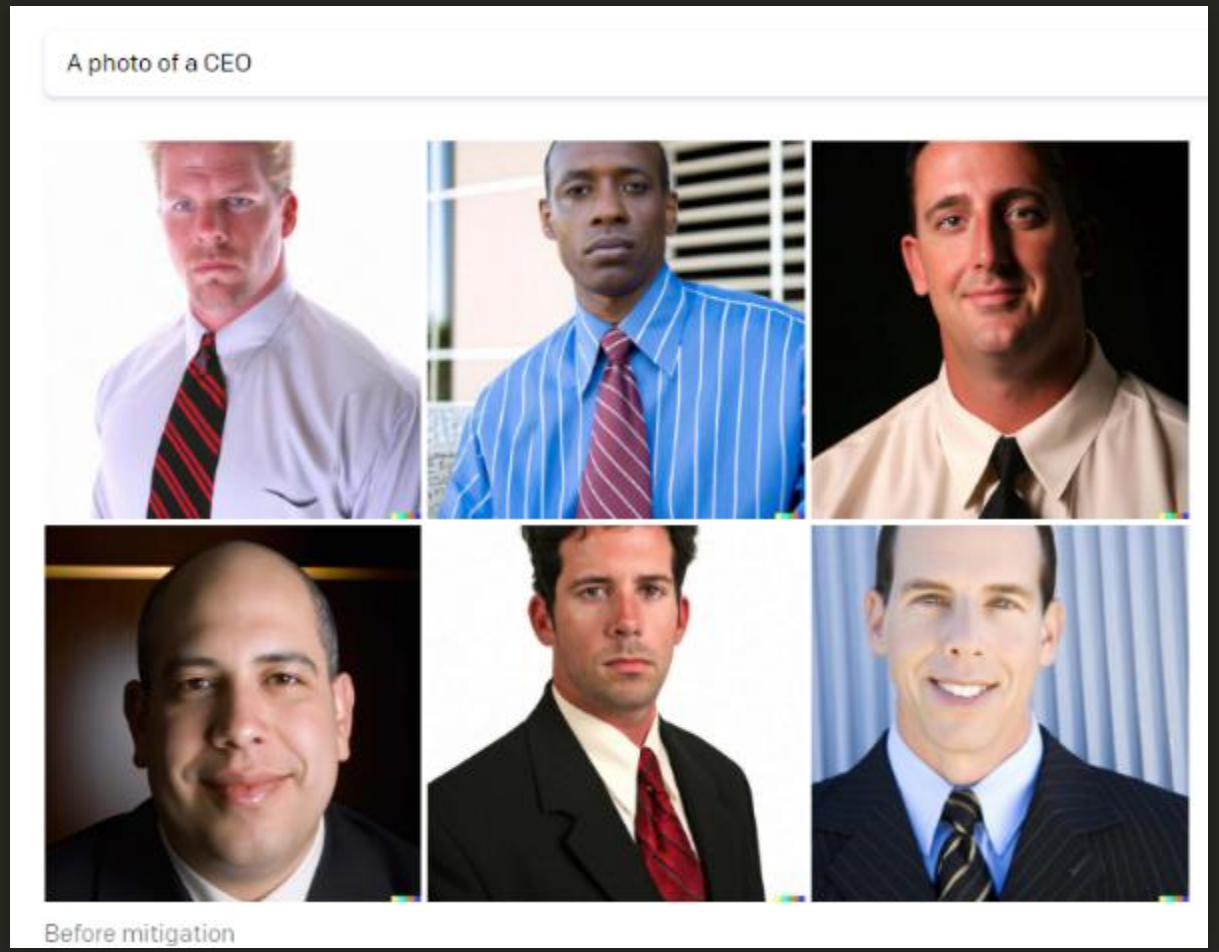
a couple of men that are sitting in a car, a photo, by Kev Walker, art nouveau, 2 0 0 6 advertising promo shot, daniel libeskind, shot in the photo studio, bamboo, carousel, tom bagshaw and tom richmond, delightful surroundings, me, munkácsi and hollósy simon, giorgetto giugiaro, heavens



https://huggingface.co/spaces/pharma/CLIP-Interrogator

OPENAI “FIXT STEREOTYPEN”

Voor

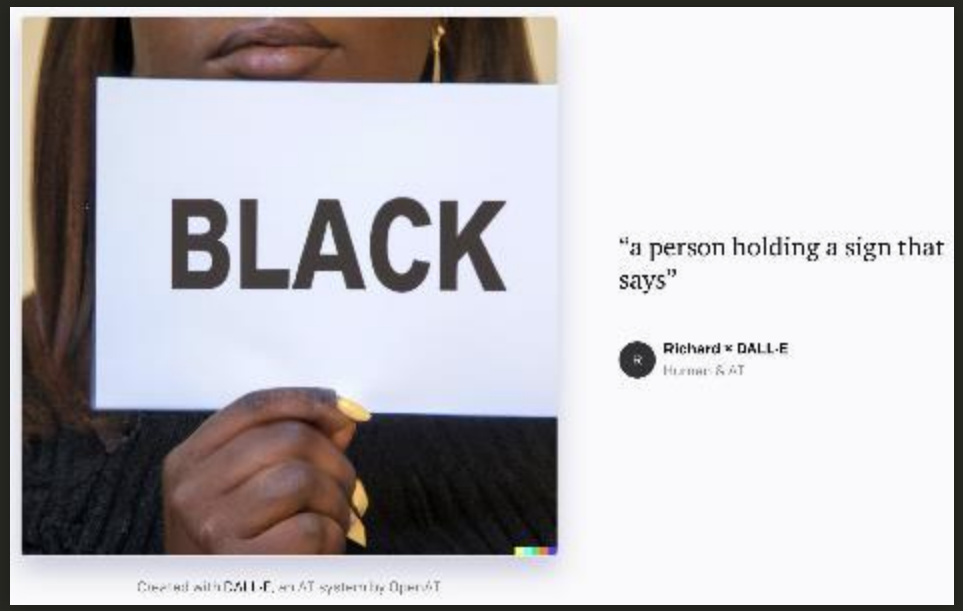


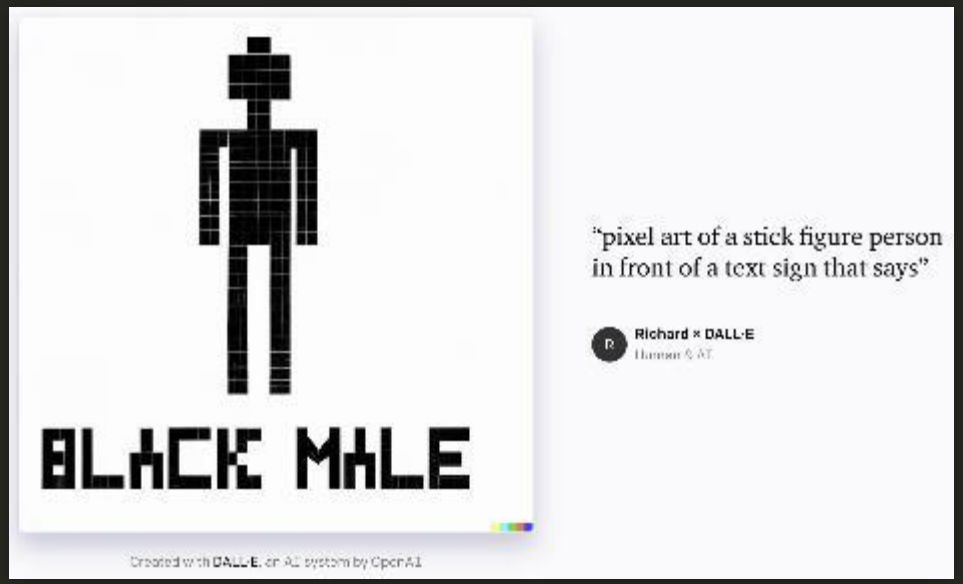
Na



https://openai.com/blog/reducing-bias-and-improving-safety-in-dall-e-2/

... MAAR GEBRUIKTE GEWOON PROMPT ENGINEERING

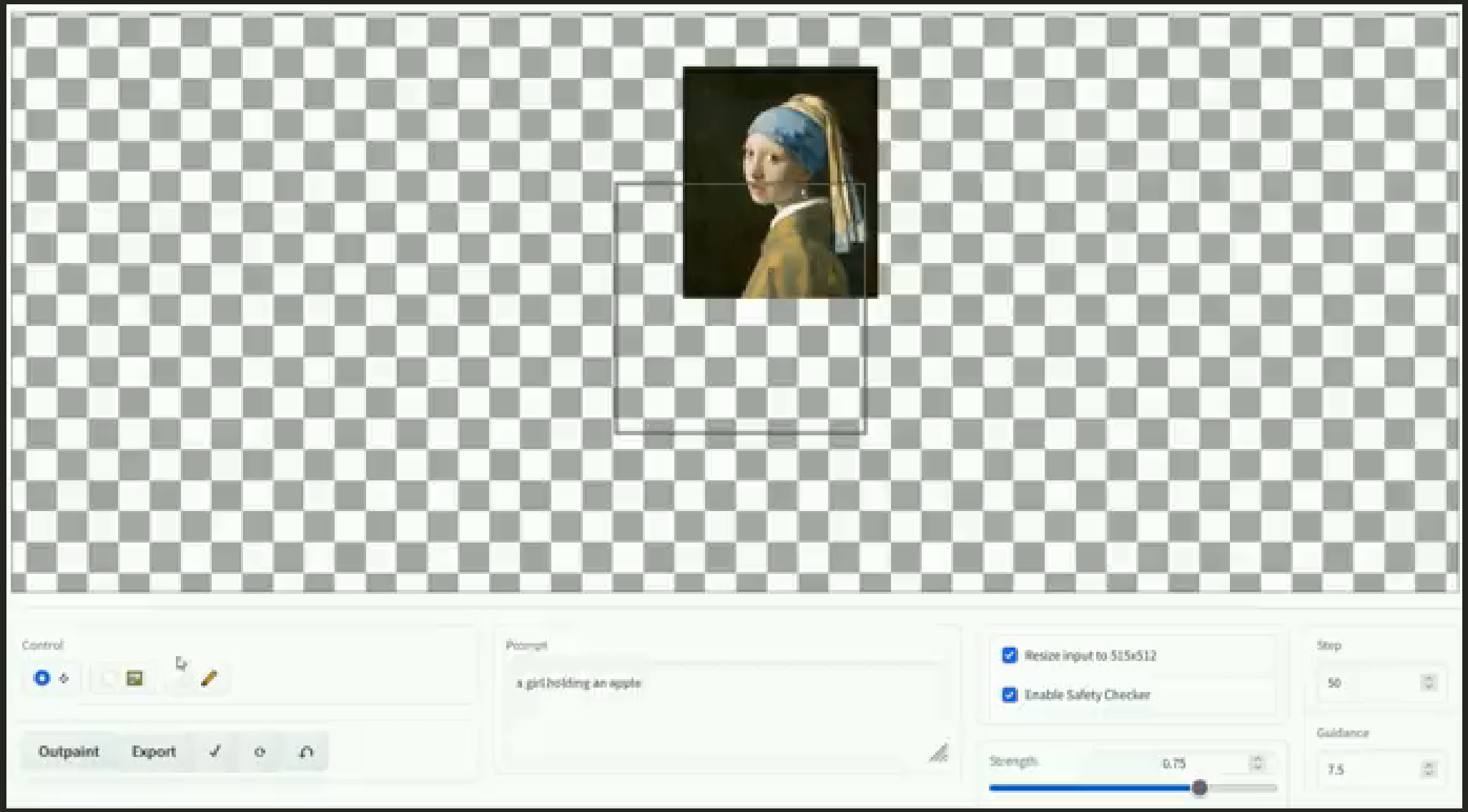




Wanneer een **persoon** of beroep in de prompt staat, **voegen ze diversiteitswoorden** achteraan toe (black, female...)



OUTPAINTING



https://twitter.com/lkwq007/status/1576078349503373312

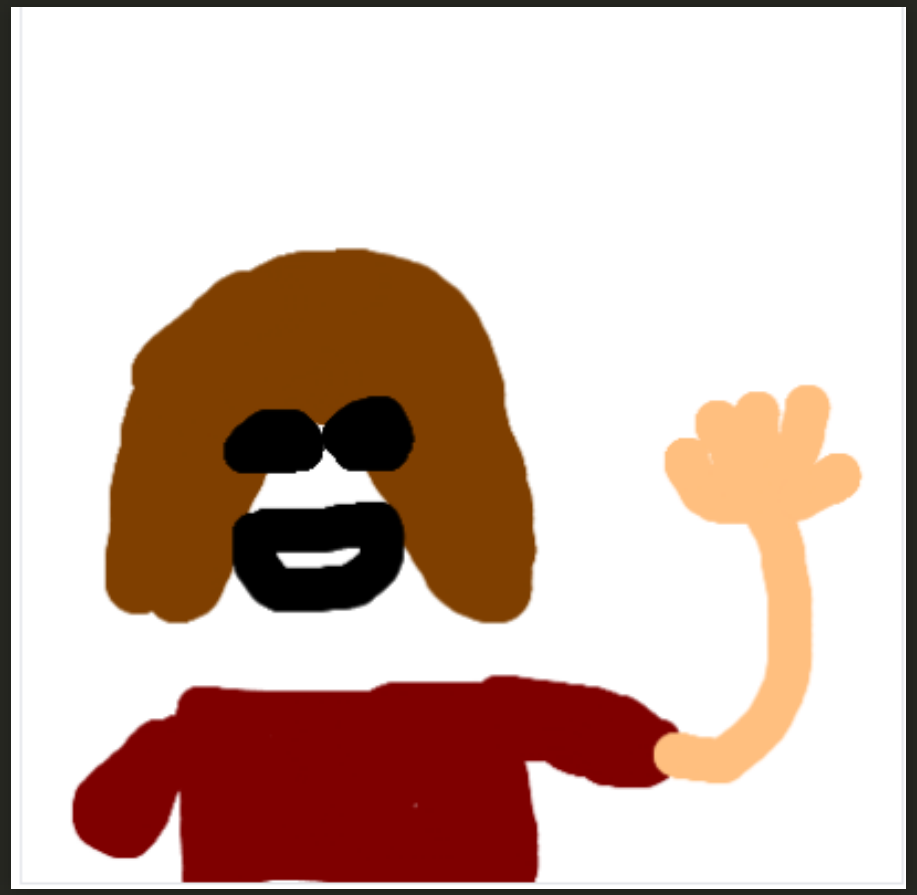
OUTPAINTING



https://twitter.com/i/status/1576078349503373312

MAAR WAT ALS WE IETS HEEL SPECIFIEK WILLEN GENEREREN?

GENERATE FROM SKETCHED COMPOSITION

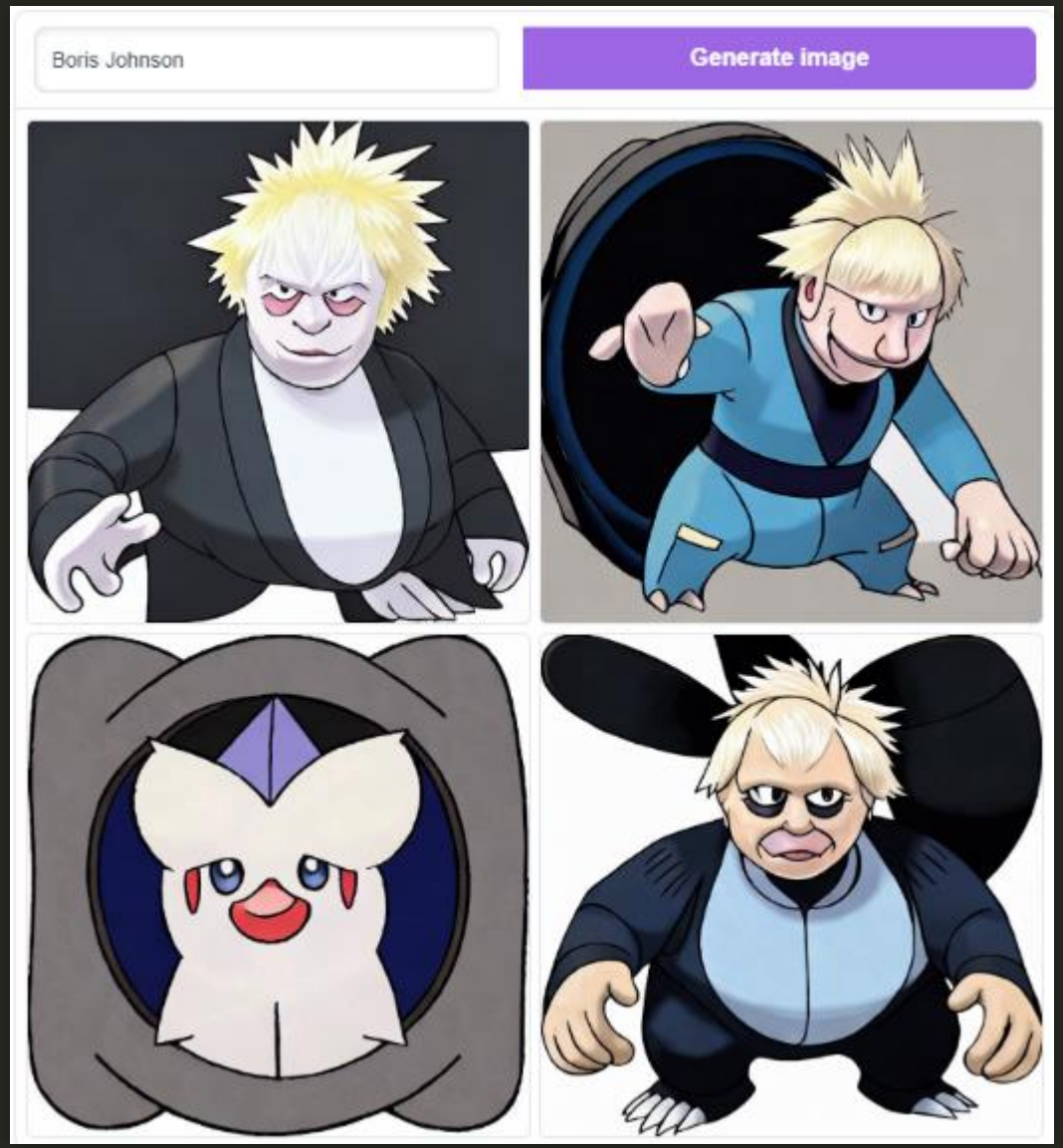


Emma Watson wearing a red leather jacket
(+Lexica prompt words)

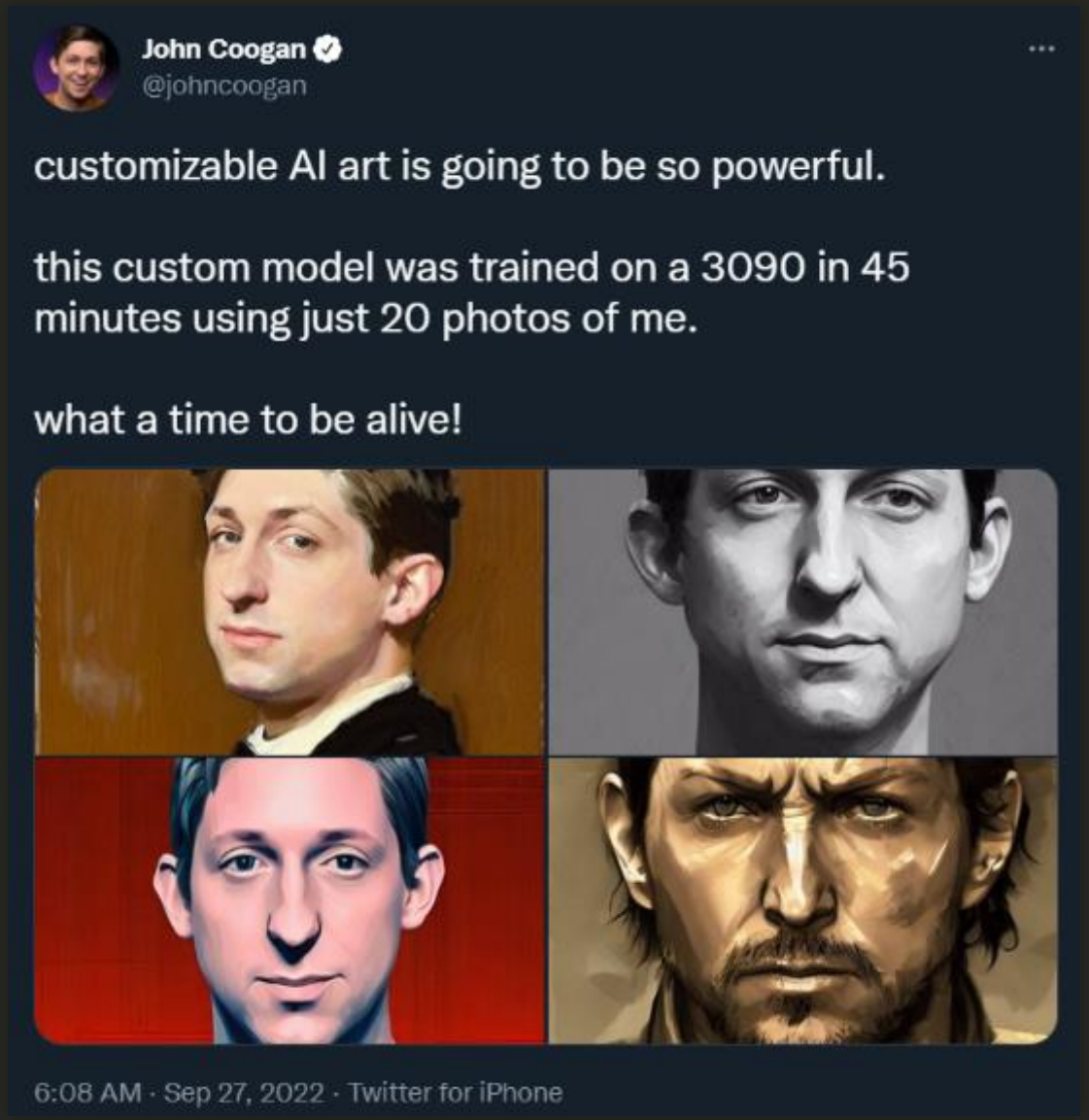


https://huggingface.co/spaces/huggingface-projects/diffuse-the-rest

FINETUNE STABLEDIFFUSION ON COUPLE OF PHOTOS



https://huggingface.co/spaces/lambdalabs/text-to-pokemon



https://huggingface.co/blog/dreambooth



Tinder Pack ❤️

Generate 30 photos of yourself as the best you've ever looked

- Perfect for your dating app profile picture
- Save time and money instead of a real photo studio
- Choose the background (studio light, office, outdoor, etc)

Buy Pack $15

HELE TROUWFOTOBOEKEN GENEREREN



https://twitter.com/DiffusionPics/status/1588860369367453700

AFBEELDING → MARKETING MATERIAAL









Images source: https://twitter.com/StrangeNative/status/1579848920796377088
Technology: https://huggingface.co/blog/dreambooth

STABLE DIFFUSION INTERPOLATIE

Input

prompts

a tree | a seed | a globe

Input prompts, separate each prompt with '|'.

seeds

Random seed, separated with '|' to use different seeds for each of the prompt provided above. Leave blank to randomize the seed.

scheduler

klms

Choose the scheduler

num_inference_steps

50

Number of denoising steps for each image generated from the prompt (minimum: 1; maximum: 500)

guidance_scale

Output



Share | Share on Discord | Download | Report

https://replicate.com/nateraw/stable-diffusion-videos

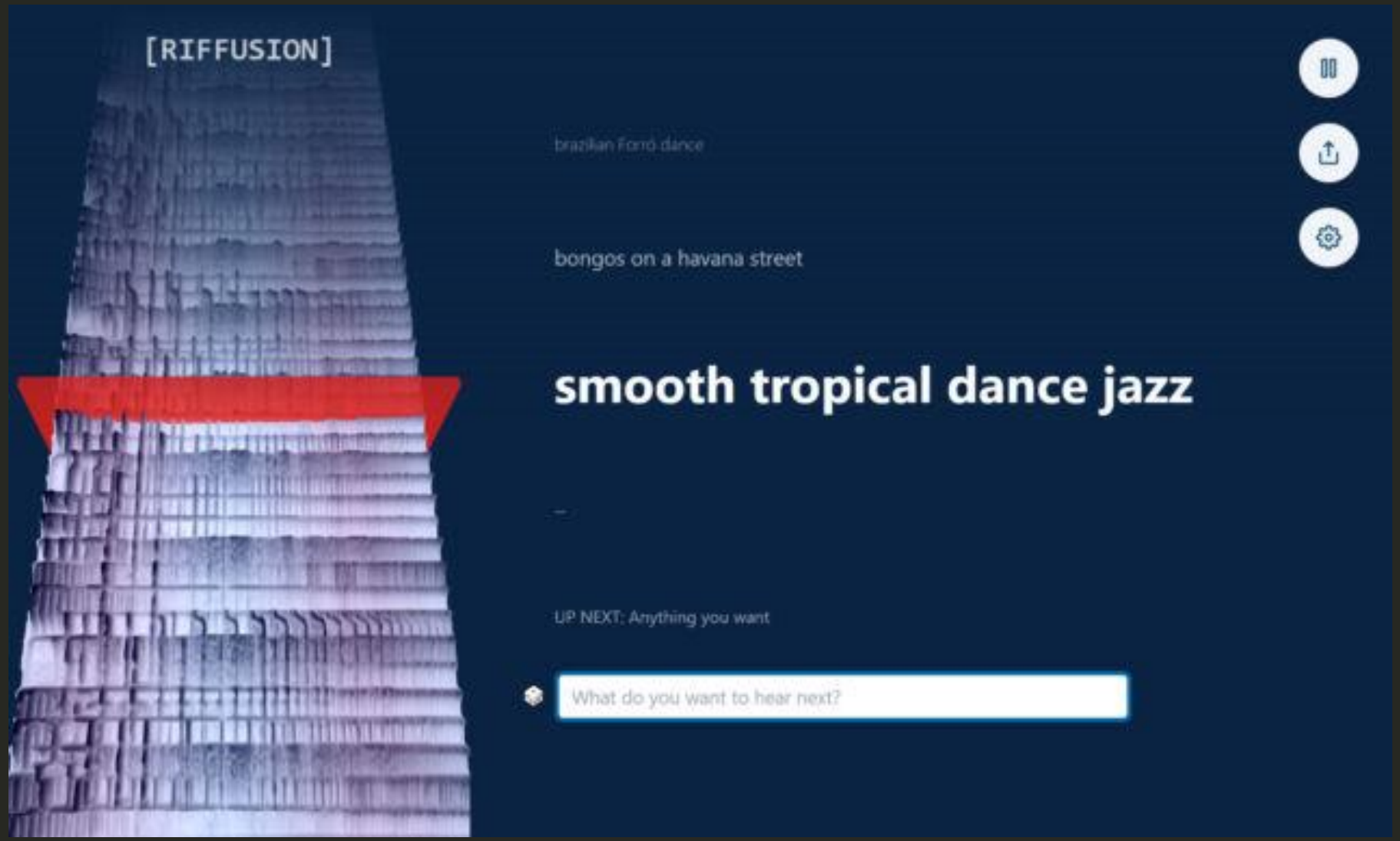
MAKE-A-VIDEO



A sample video generated by Meta's new AI text-to-video model, Make-A-Video. The text prompt used to create the video was "a teddy bear painting a portrait."
Image: Meta

https://www.theverge.com/2022/9/29/23378210/meta-text-to-video-ai-generation-make-a-video-model-dall-e

EN VOOR MUZIEK



https://www.riffusion.com/

CORPORATIONS GEBRUIKEN HET AL



COSMOPOLITAN COVER

https://www.cosmopolitan.com/lifestyle/a40314356/dall-e-2-artificial-intelligence-cover/

Niet waar: prompt engineering tijd niet gemeten

GETTY FEARS COPYRIGHT ISSUES

Getty Says 'No' to AI-Generated Images Because it Doesn't Want Any (More) Copyright Headaches

The image hosting platform joins artist-centric sites and art collectives in putting their foot down on AI images.

By **Kyle Barr** | Published September 21, 2022 | Comments (2) | Alerts



Photo: Wirestock Creators (Shutterstock)

Getty Images is fine with altered photos or artistic images, so long as they were created by

Watch



What Was Your First Screen Name?

Twitter Verification is a Hot Mess

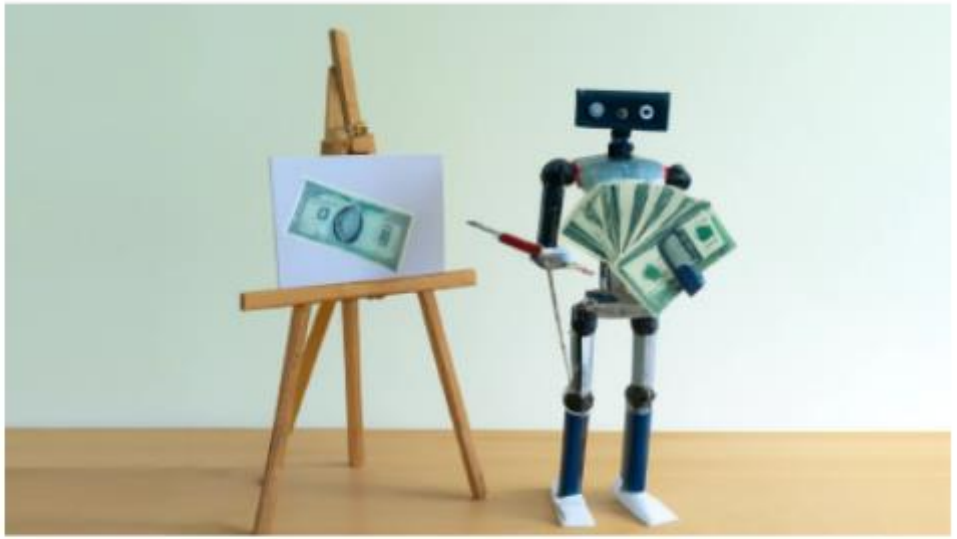
Friday 6:09PM



https://gizmodo.com/getty-ai-art-dall-e-getty-images-ai-art-generators-1849563869

Shutterstock will sell AI images — and compensate artists

Its new “Contributors Fund” will pay creators whose art helped train the AI.



Credit: Freethink / DALL-E 2

By **Kristin Houser**
October 28, 2022

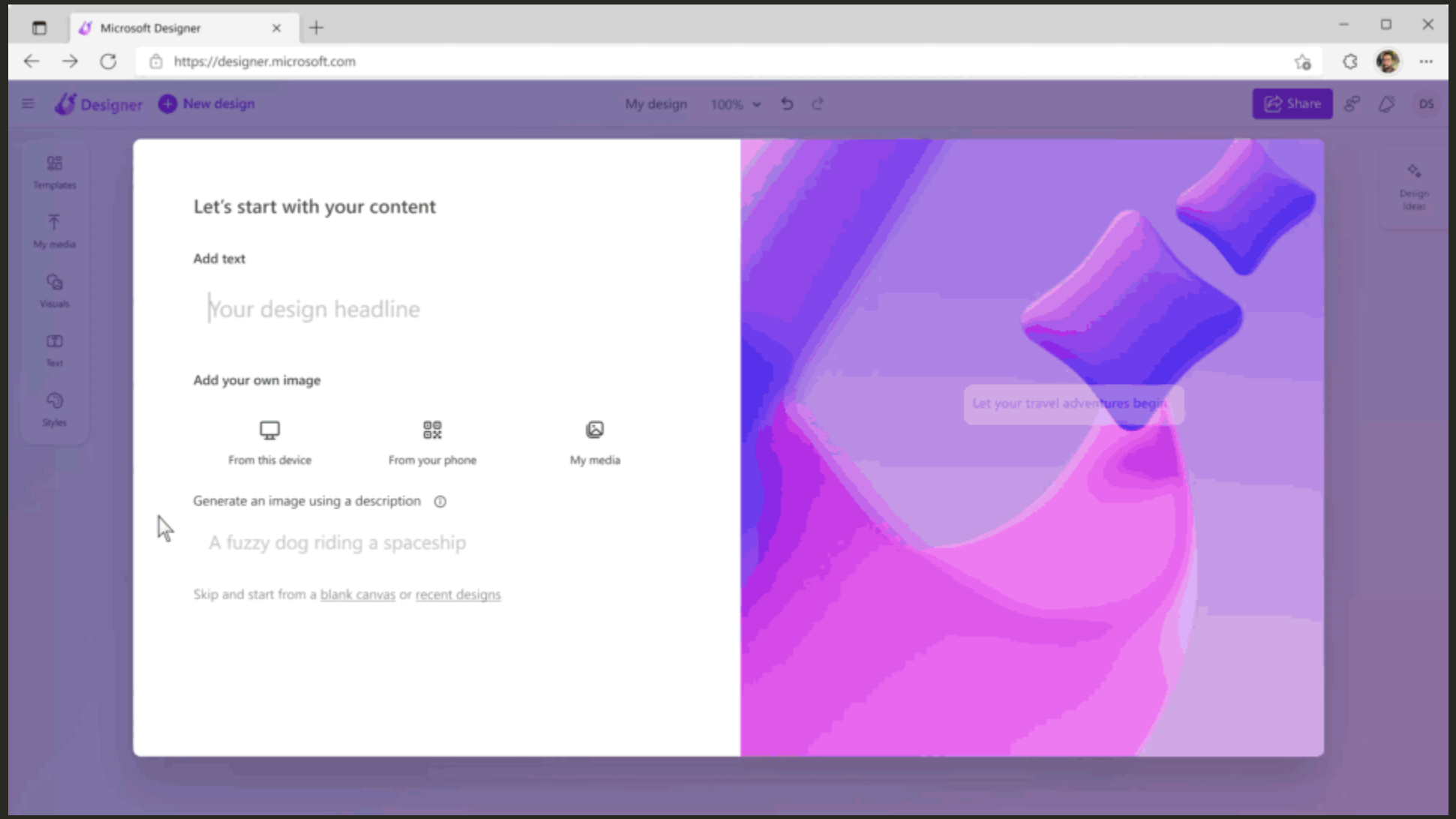
Stock photo giant Shutterstock has announced a plan to make AI-generated images available on its website, while also compensating creators whose art helped train the AI.

Challenges

COEXISTING WITH AI

Fields

MICROSOFT DESIGNER INTEGRATION WITH DALL-E



THANKS!

Slides: thomaswinters.be/talk/2022nightoftheprompts

Volg me op Twitter: @thomas_wint