Geração de imagens com IA e Stable Diffusion

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O que são IA gerativas de imagem

O que são IA gerativas de imagem

“Gerar imagens a partir de ruído”

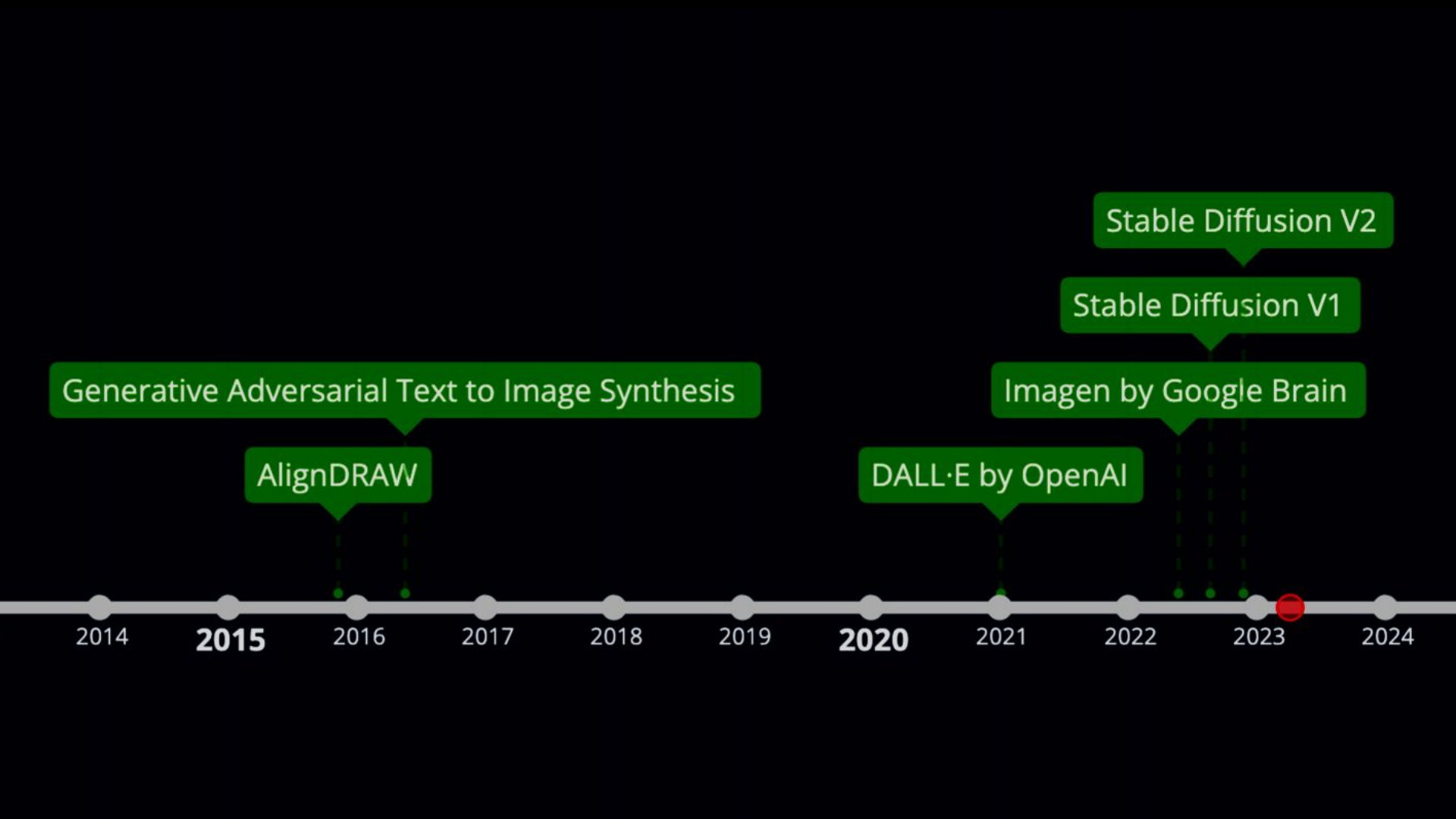
PRINCIPAIS MODELOS


OpenAI
DALL·E 2


Midjourney


stability.ai


GOOGLE
IMAGEN AI


Stable Diffusion V2
Stable Diffusion V1
Generative Adversarial Text to Image Synthesis
Imagen by Google Brain
AlignDRAW
DALL·E by OpenAI
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

DALLE 2

DALL·E 1

DALL·E 2

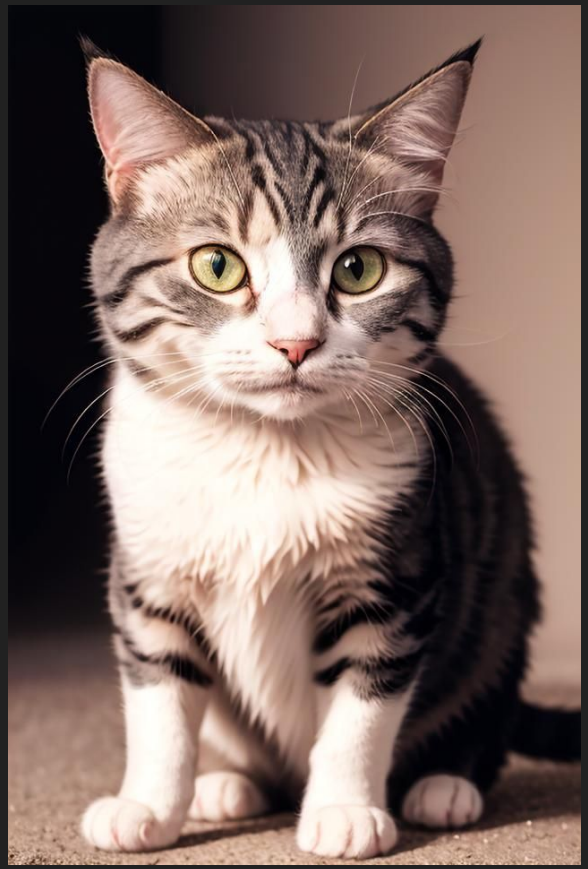
"a painting of a fox sitting in a field at sunrise in the style of Claude Monet"

DALLE 2

IMAGEN

Midjourney

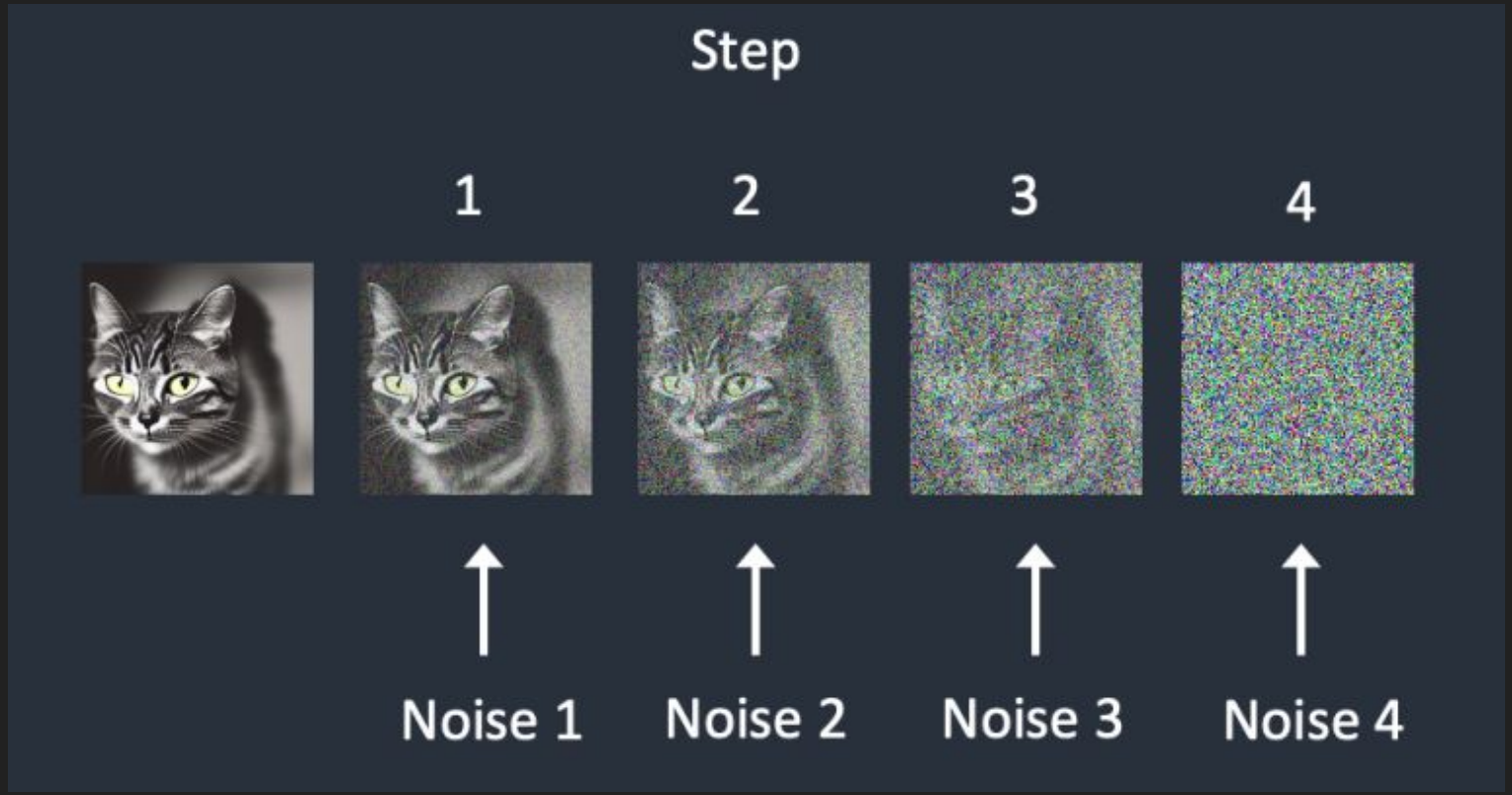
Stable Diffusion



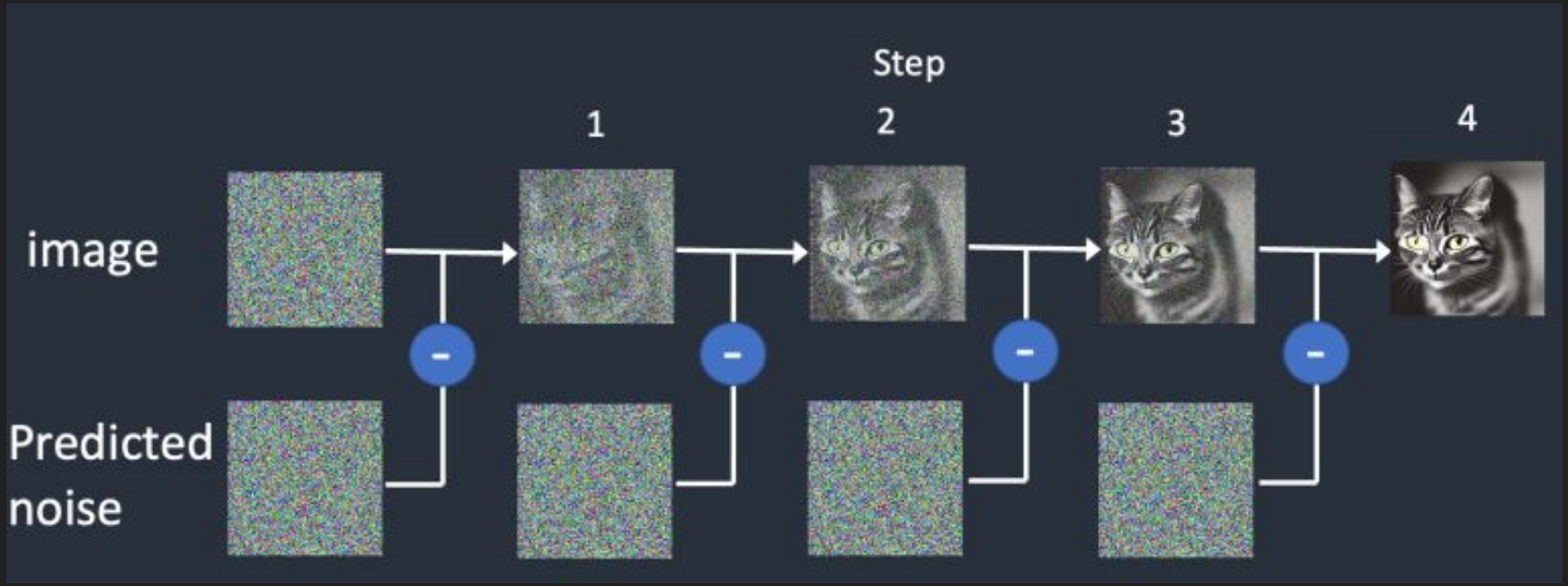
COMO FUNCIONA

Stable Diffusion

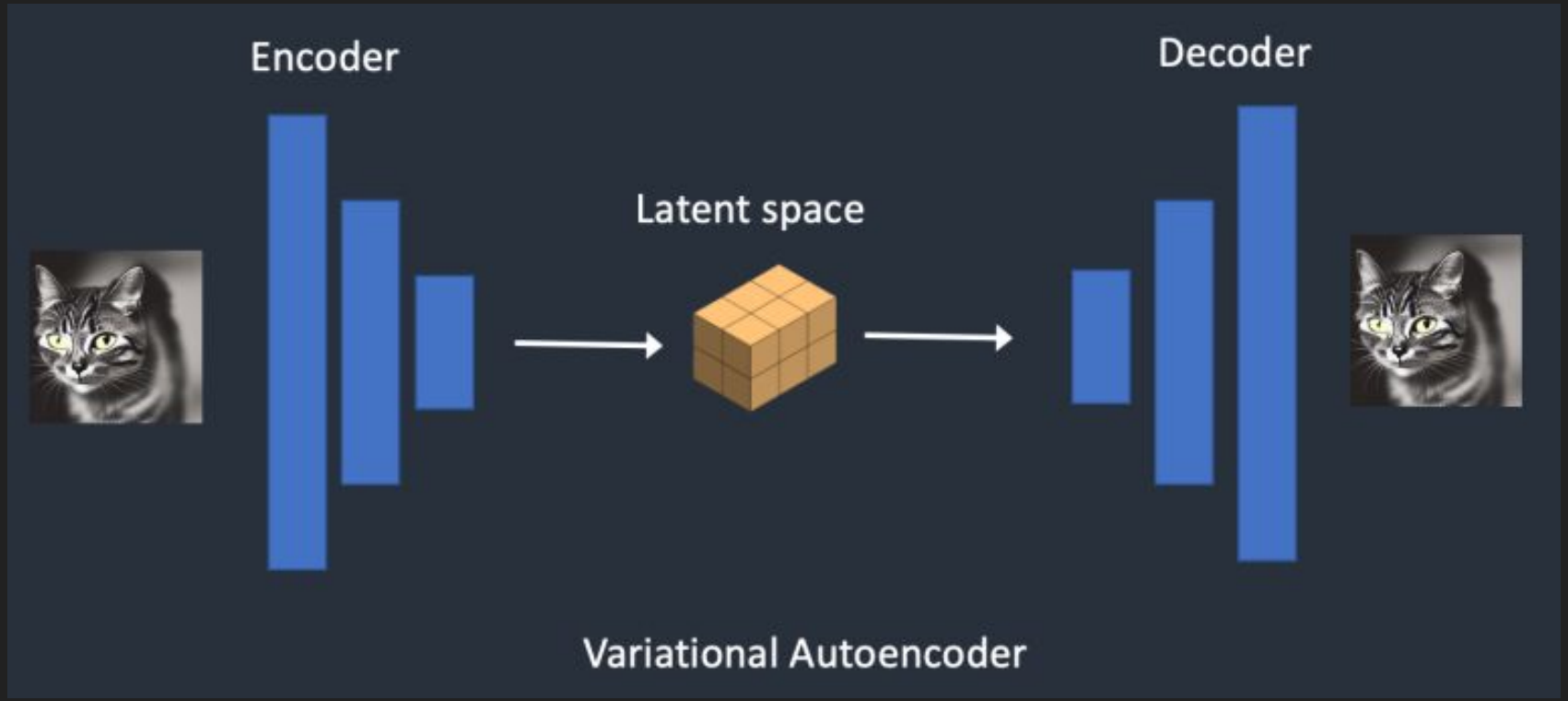
Stable Diffusion



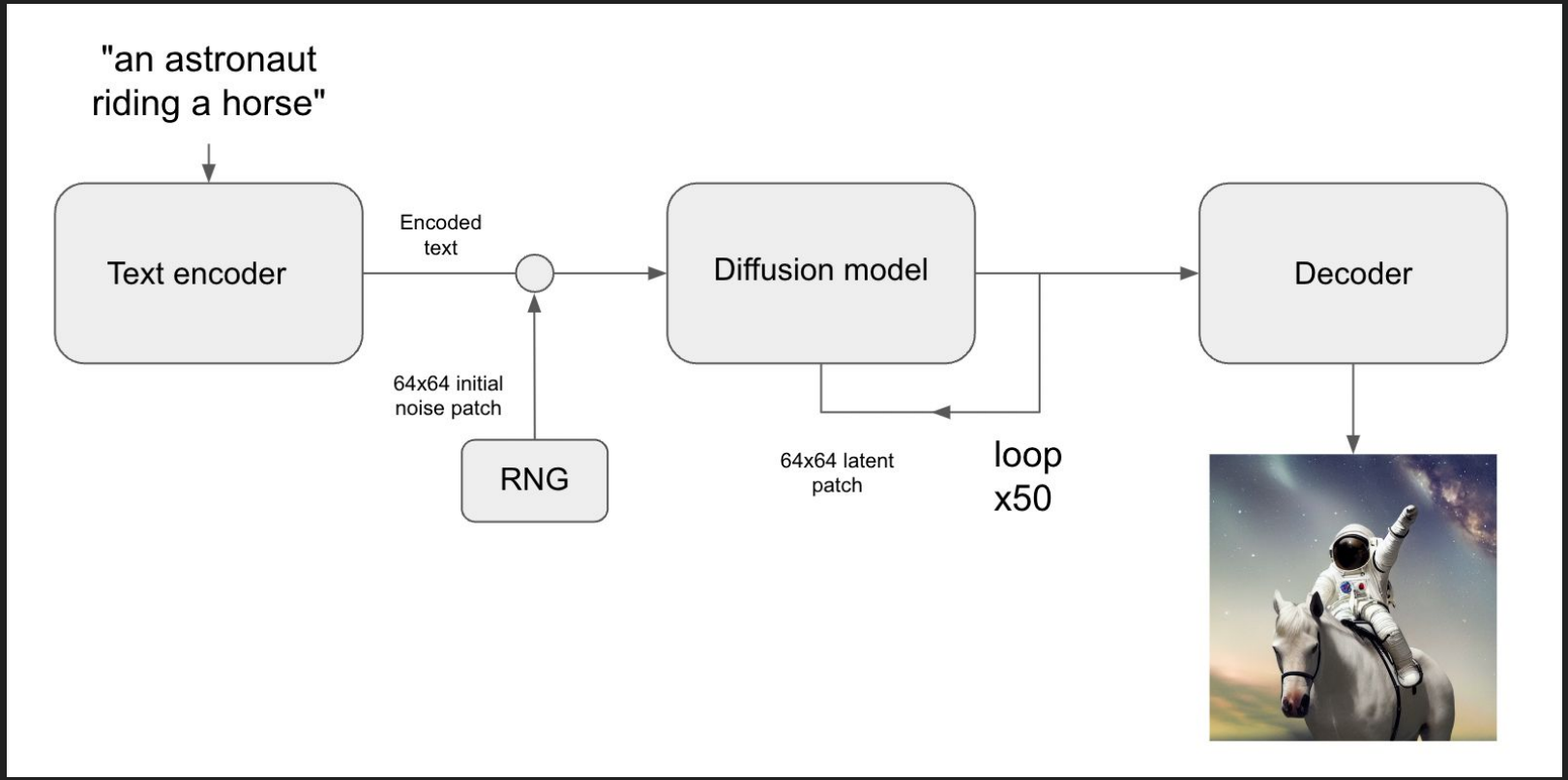
Stable Diffusion



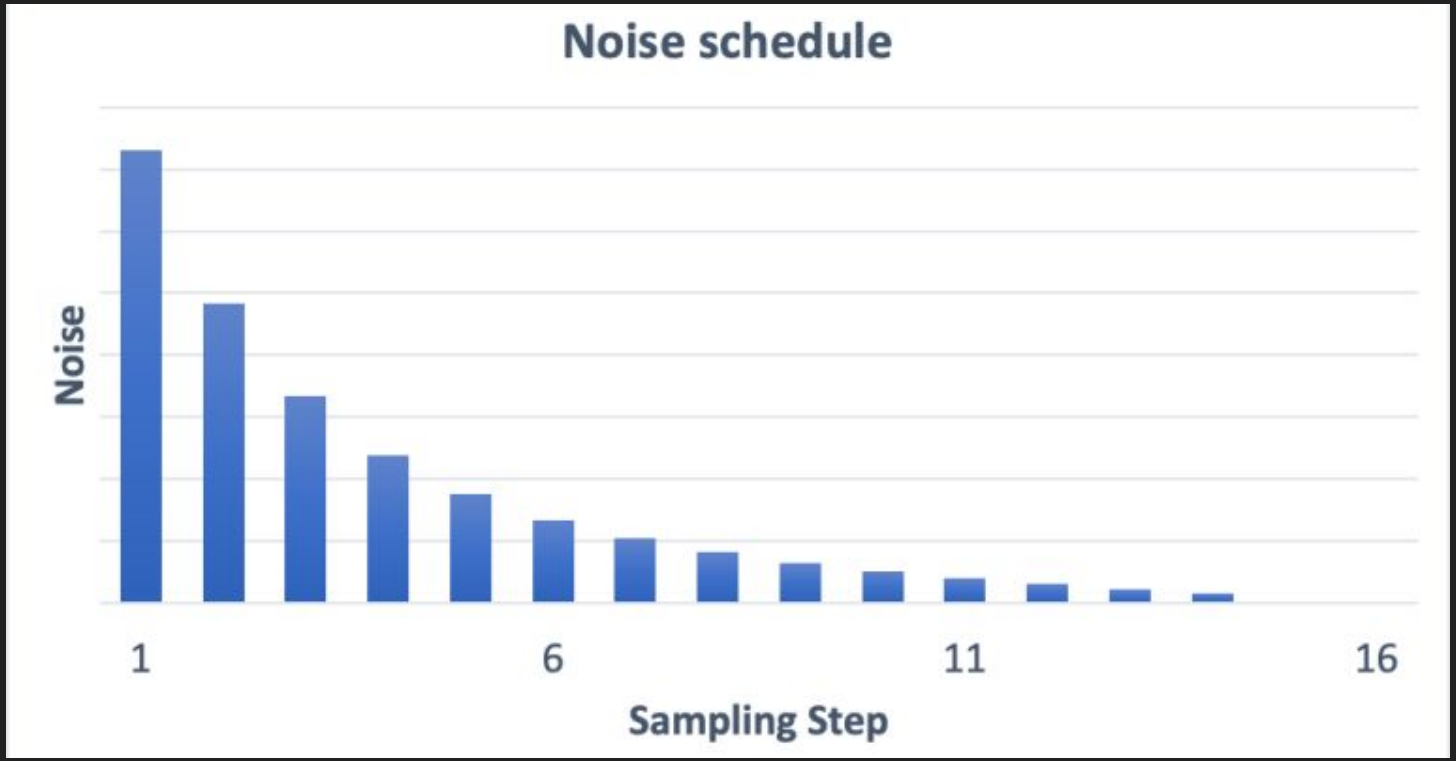
Stable Diffusion



Stable Diffusion



Stable Diffusion



Explicação mais detalhada

FORMAS DE USO

txt2img

(masterpiece:1.2), (hyper realistic:1.2), (epic), fantasy landscape, [summer | autumn] atmosphere, high mountains, city below, giant castle, forest around, digital art

Negative prompt: snow, nordic, ugly, bad composition, worst quality, human, creature, poorly drawn, blurry

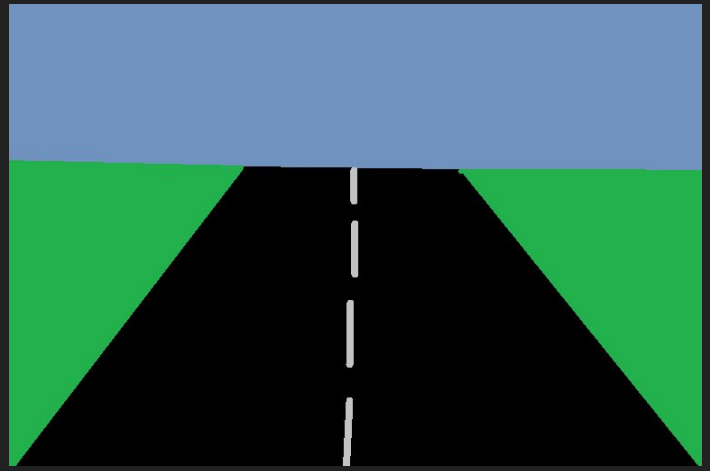
Steps: 25, Sampler: DPM++ 2M Karras, CFG scale: 7, Seed: 90938135, Size: 768x512, Model hash: ec6f68ea63, Model: lyriel_v16, Version: v1.3.1

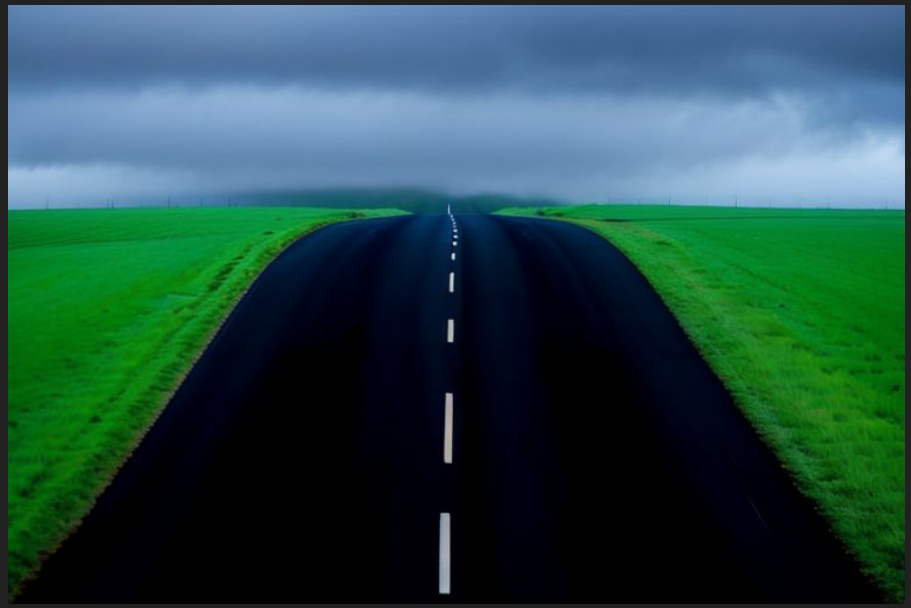
txt2img

img2img

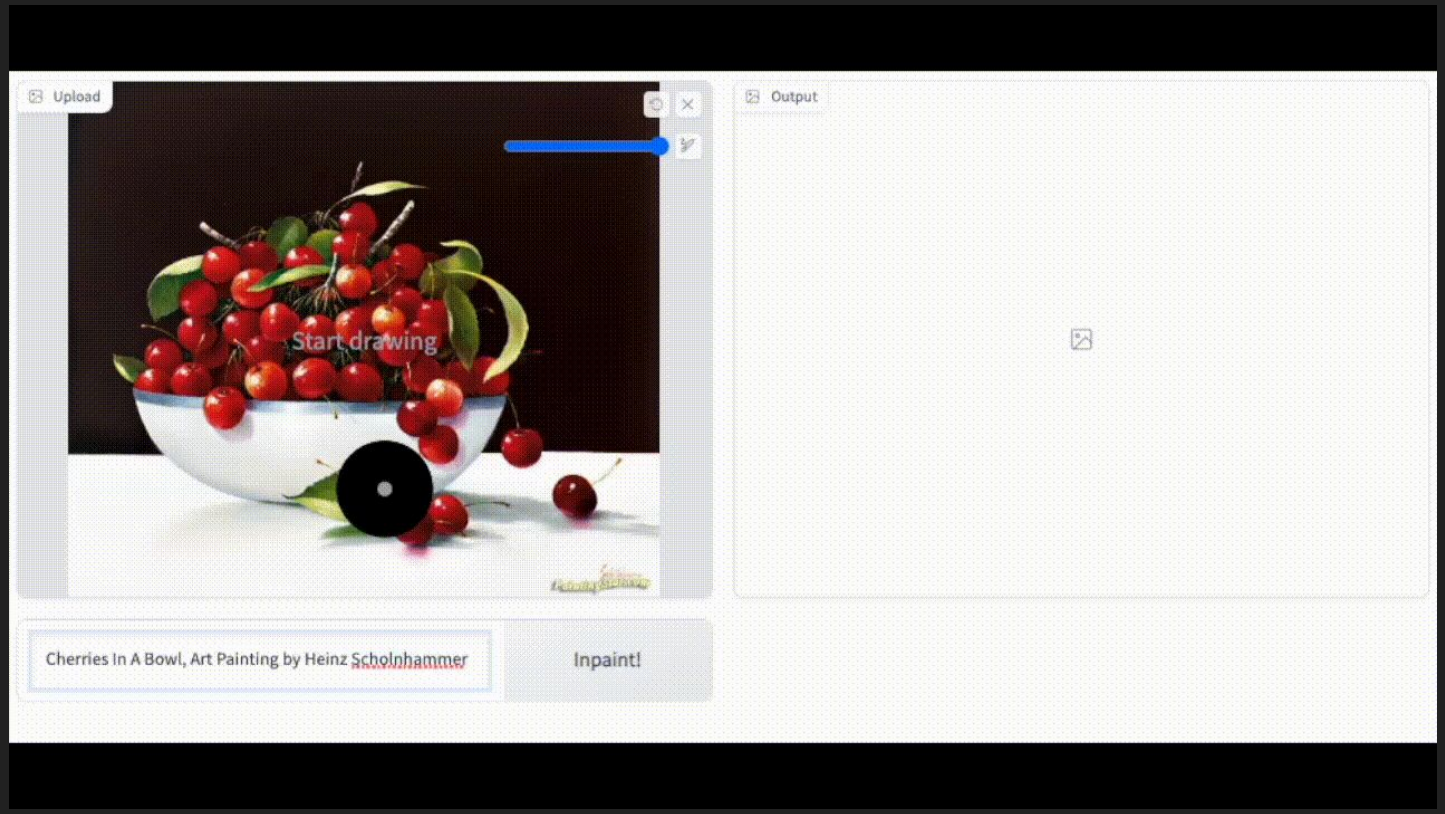
american roadway, dark green grass fields, beautiful dark cloudy sky, realistic, (photography:1.2), canon, photoreal

Negative prompt: unreal, bad composition, ugly photo, bad quality, drawing, text, title

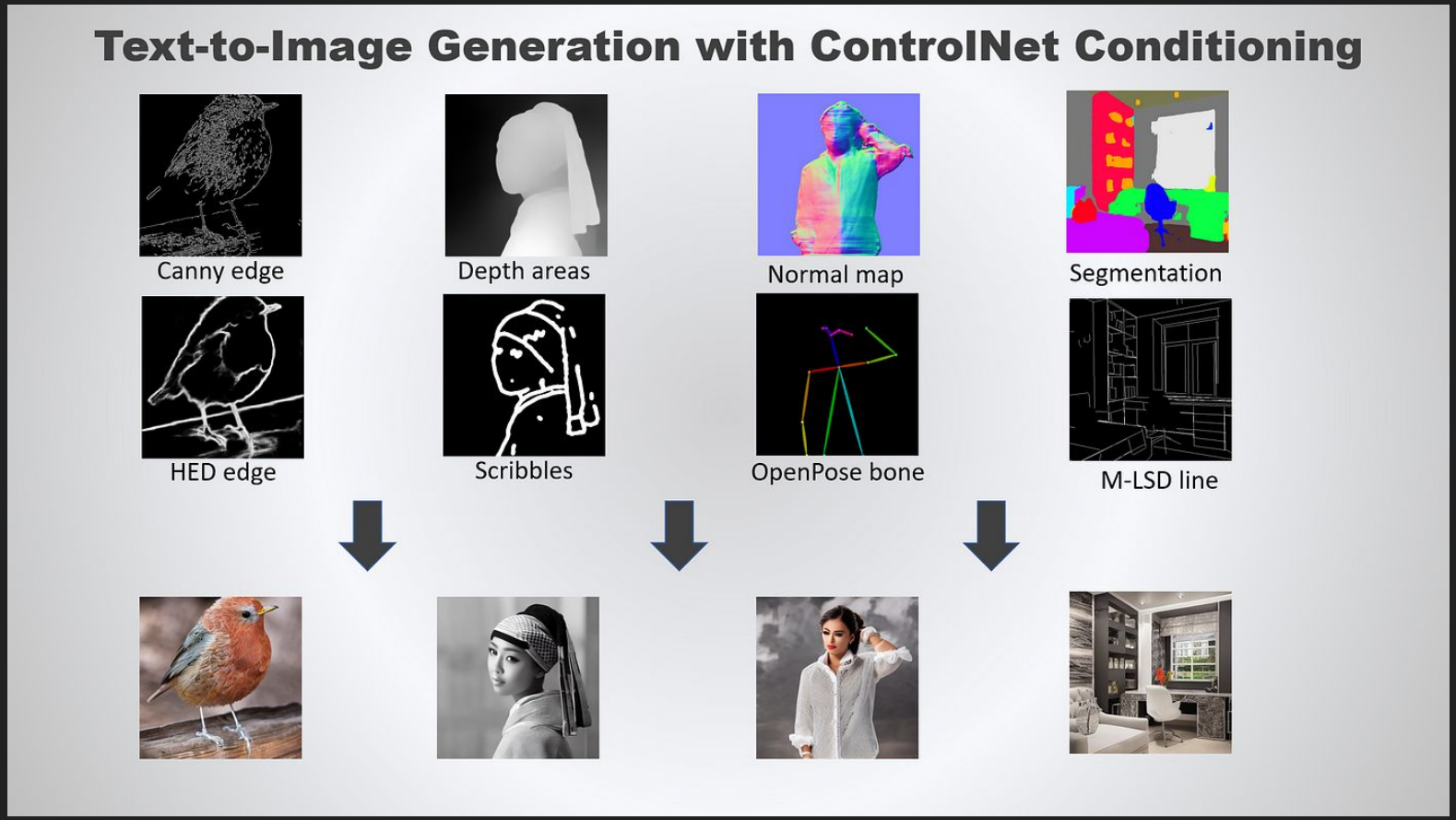




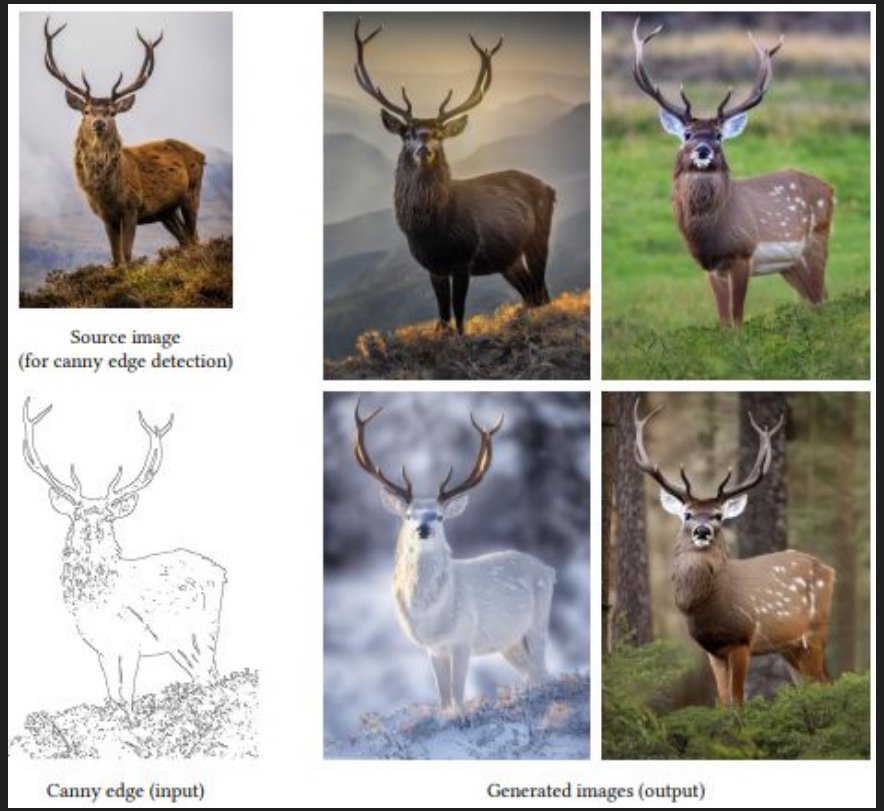
inpainting


Upload
Start drawing
Output
Cherries In A Bowl, Art Painting by Heinz Scholnhammer
Inpaint!

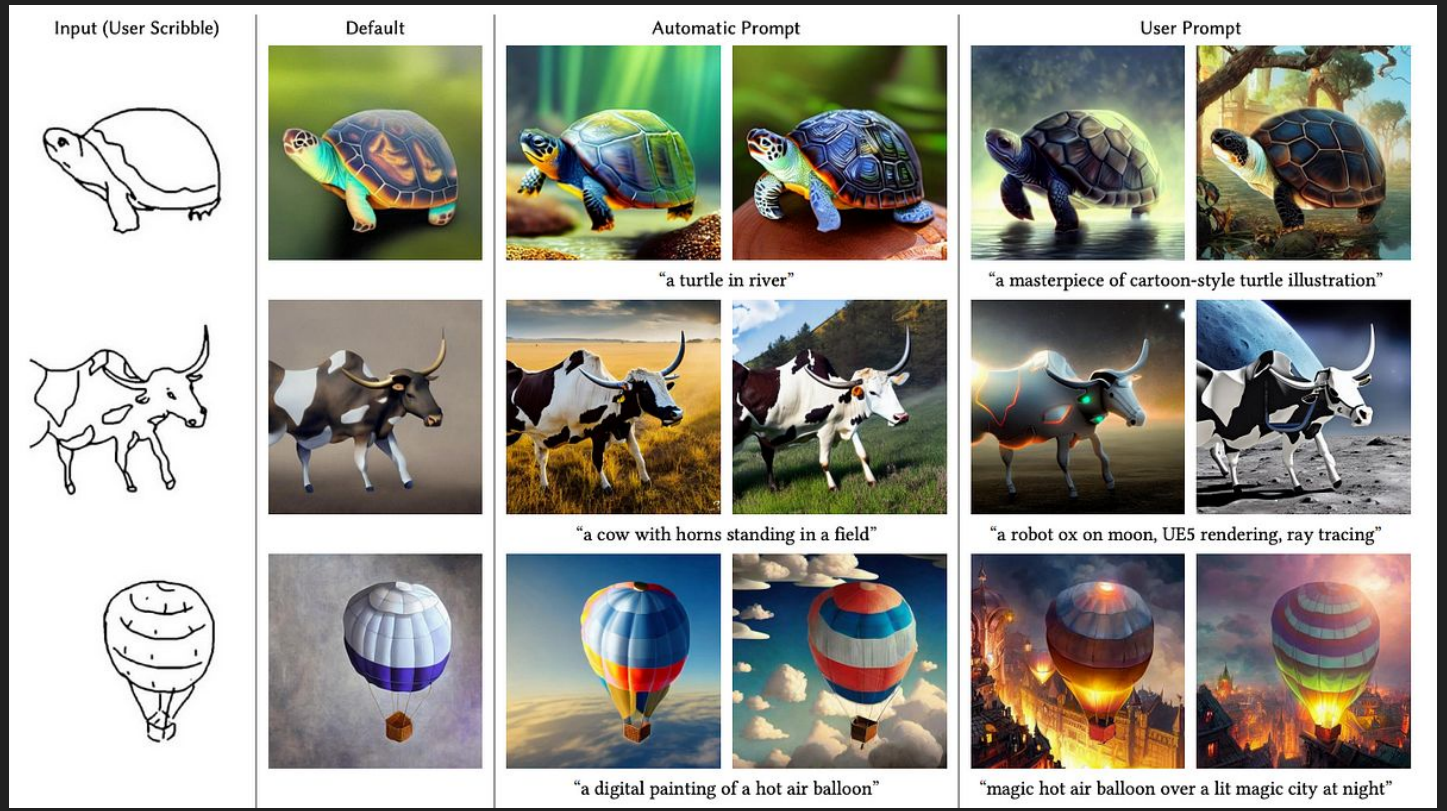
Control Net


Text-to-Image Generation with ControlNet Conditioning
Canny edge
Depth areas
Normal map
Segmentation
HED edge
Scribbles
OpenPose bone
M-LSD line

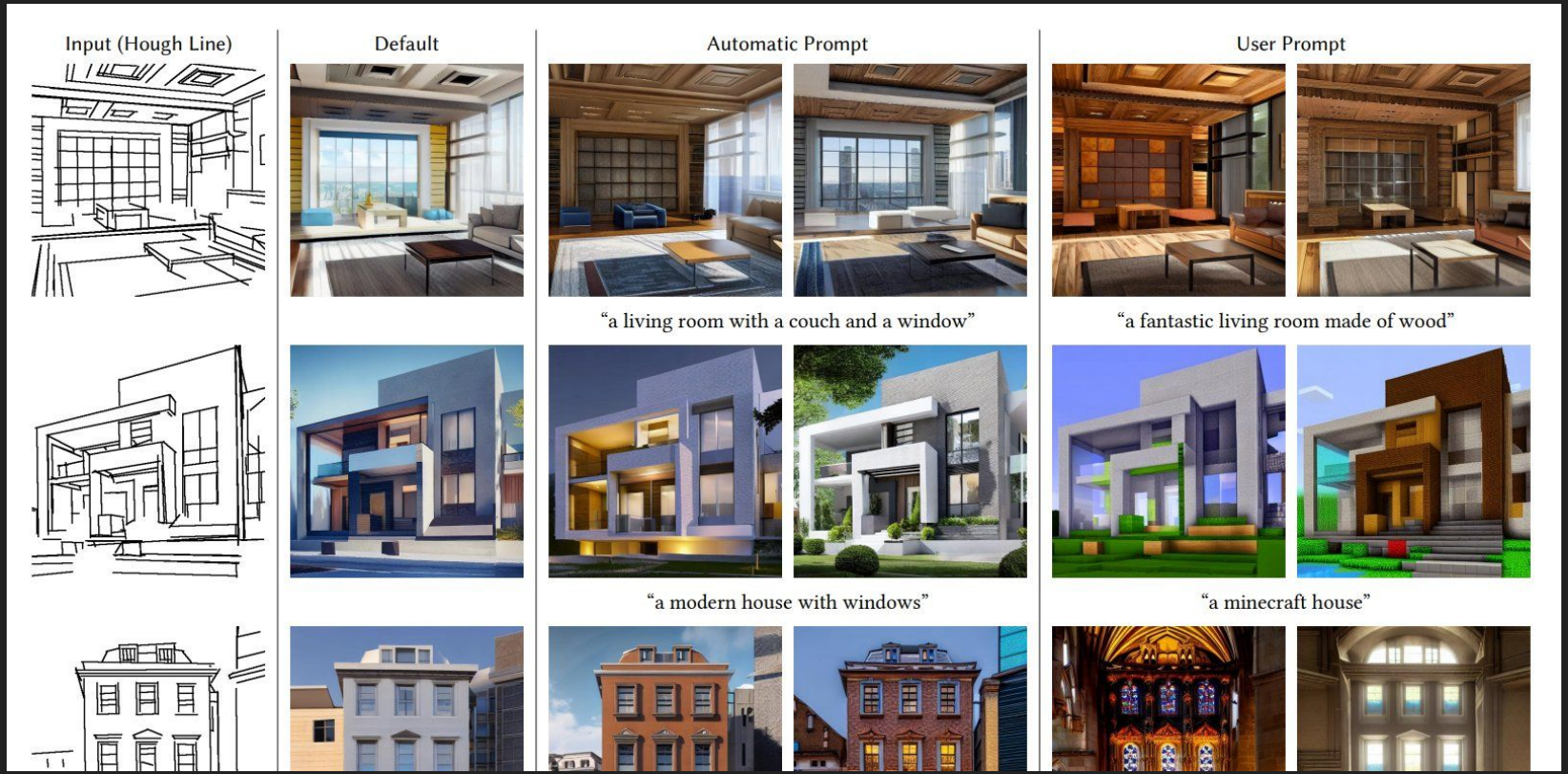
Control Net


Source image
(for canny edge detection)
Canny edge (input)
Generated images (output)

Control Net


Input (User Scribble)
Default
Automatic Prompt
User Prompt
"a turtle in river"
"a masterpiece of cartoon-style turtle illustration"
"a cow with horns standing in a field"
"a robot ox on moon, UE5 rendering, ray tracing"
"a digital painting of a hot air balloon"
"magic hot air balloon over a lit magic city at night"

Control Net


Input (Hough Line)
Default
Automatic Prompt
User Prompt
"a living room with a couch and a window"
"a fantastic living room made of wood"
"a modern house with windows"
"a minecraft house"

EXEMPLO PRÁTICO

txt2img

prompt: a modified custom ([sports |muscle] car) with worn paint in a ([cyberpunk | futuristic] street), (dusty atmosphere), (masterpiece), hyper realistic, detailed, digital art, artstation

negative prompt: blurry, bad style, poorly drawn, bad proportion, bad composition, ugly

sampler: DPM++2M Karras

sampling steps: 20

CFG Scale: 7

model: moonmix_utopia30

img2img

controlnet

controlnet

inpainting

Como utilizar Stable Diffusion

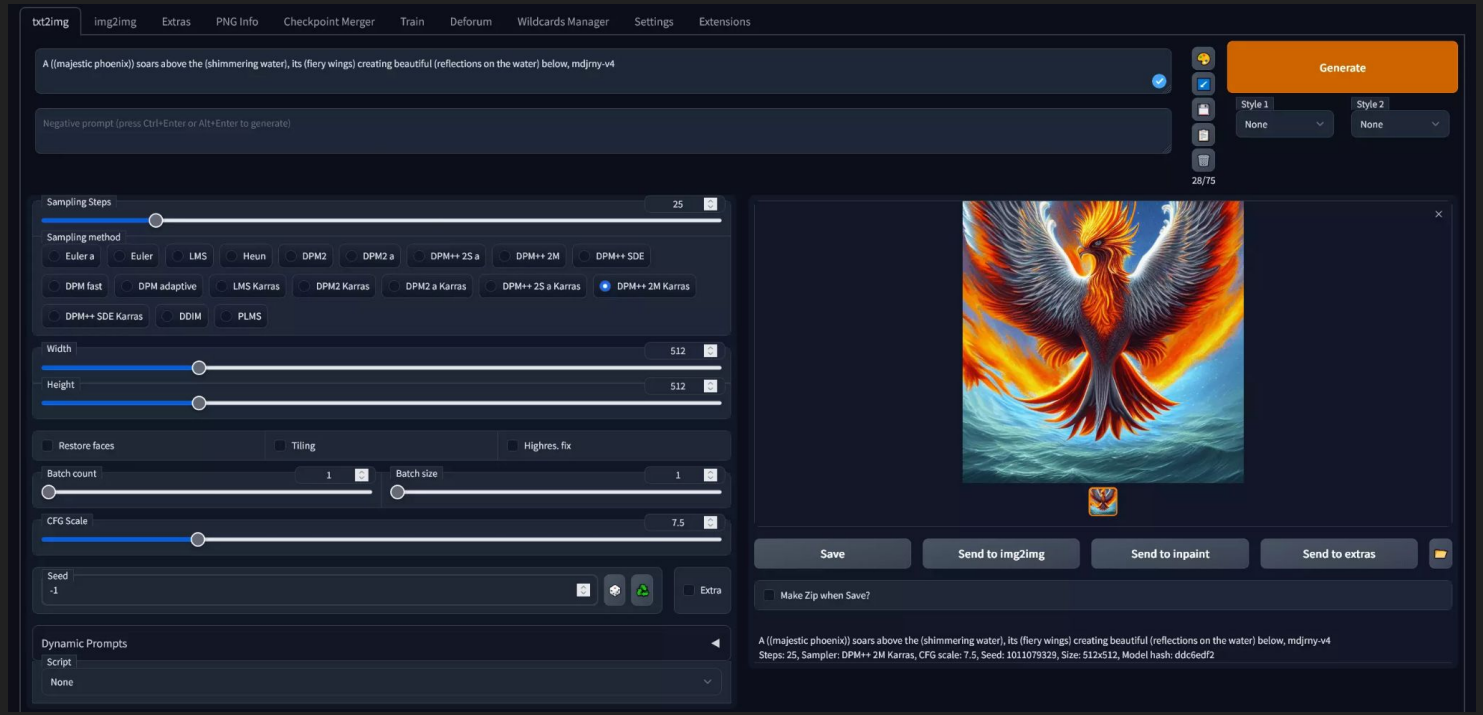
3 OPÇÕES PRINCIPAIS

1. Rodar localmente (GPU 4GB VRAM) - Automatic 1111, Easy Diffusion
2. Rodar remotamente (Google Collab, Paperspace, Vast AI)
3. Plataformas online (Demos no hugging face, Dreamlike, Scenario)

Repositório GITHUB: Notebooks para rodar no google collab, instruções para otimizar uso local. Informações e link úteis para começar.

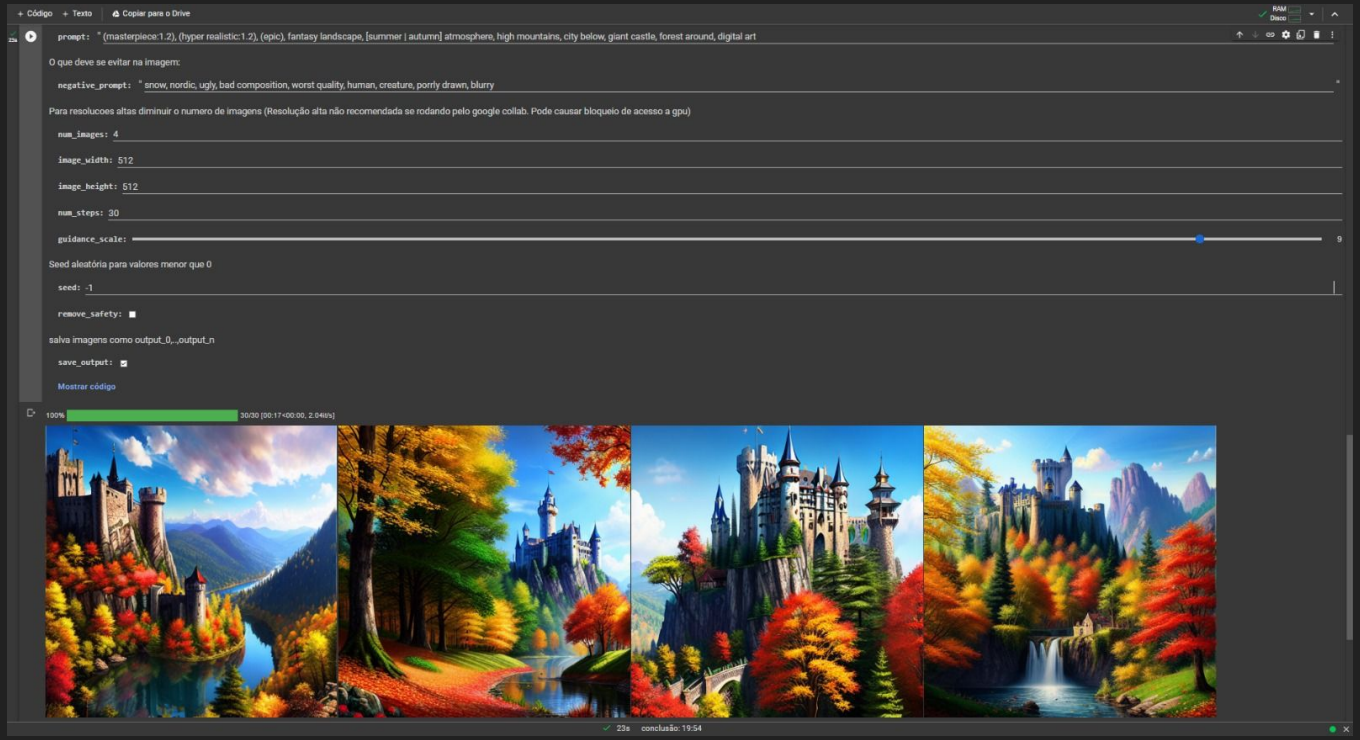
Como utilizar Stable Diffusion

Rodar localmente (GPU 4GB VRAM) - Automatic 1111, Easy Diffusion



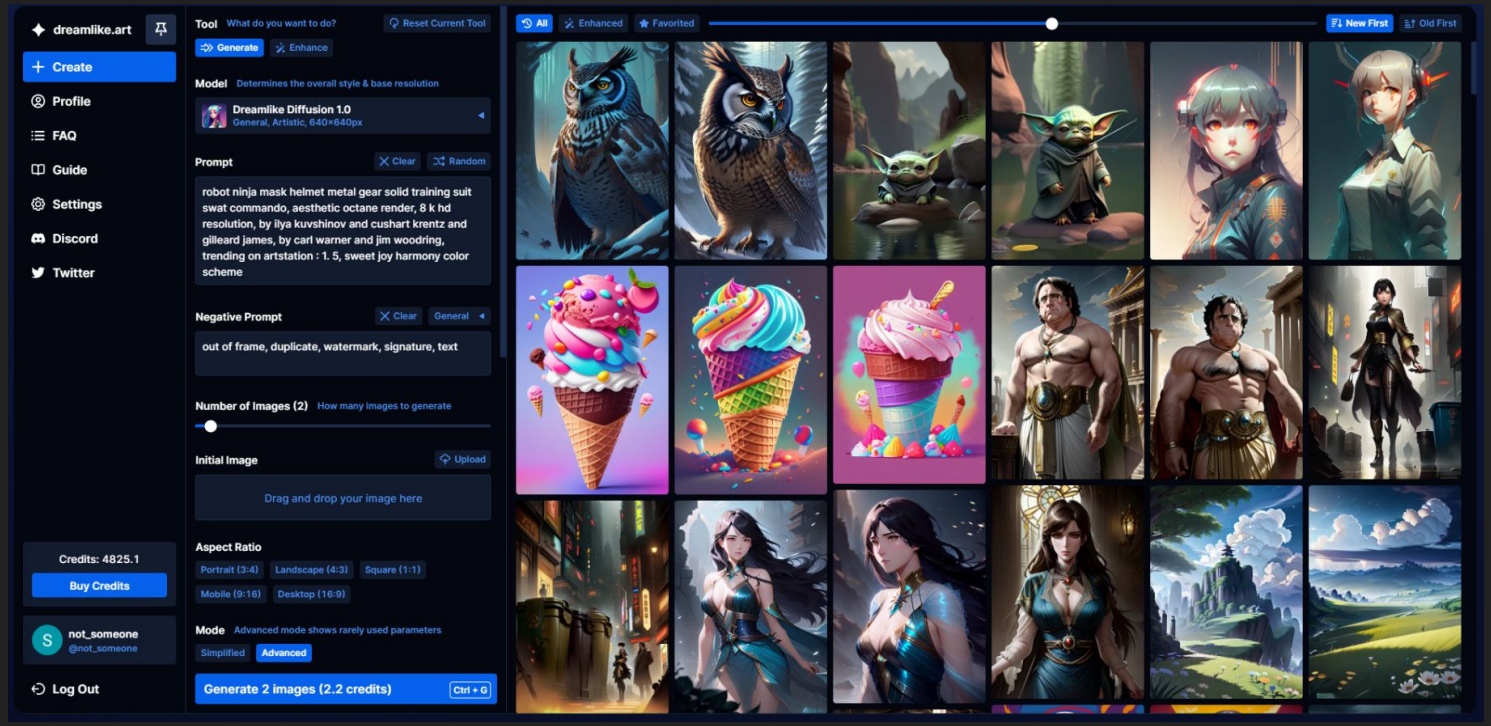
Como utilizar Stable Diffusion

Rodar remotamente (Google Collab, Paperspace, Vast AI)



Como utilizar Stable Diffusion

Plataformas online (Demos no hugging face, Dreamlike, Scenario)



Como utilizar Stable Diffusion

README.md

Stable Diffusion

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Links uteis

AUTOMATIC1111 | EASYDIFFUSION | STABLE DIFFUSION MODELS | OPTIMIZED CONTROL NET MODELS

Material sobre stable diffusion

STABLE DIFFUSION MATERIAL | HOW TO WRITE GOOD PROMPTS | CONTROL NET GUIDE

Este repositorio contem um notebook exemplo para rodar Stable Diffusion 1.4 em uma GPU com 6GB de VRAM e um notebook para utilizar dentro do google collab. Mais informações no PDF disponibilizado.