

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

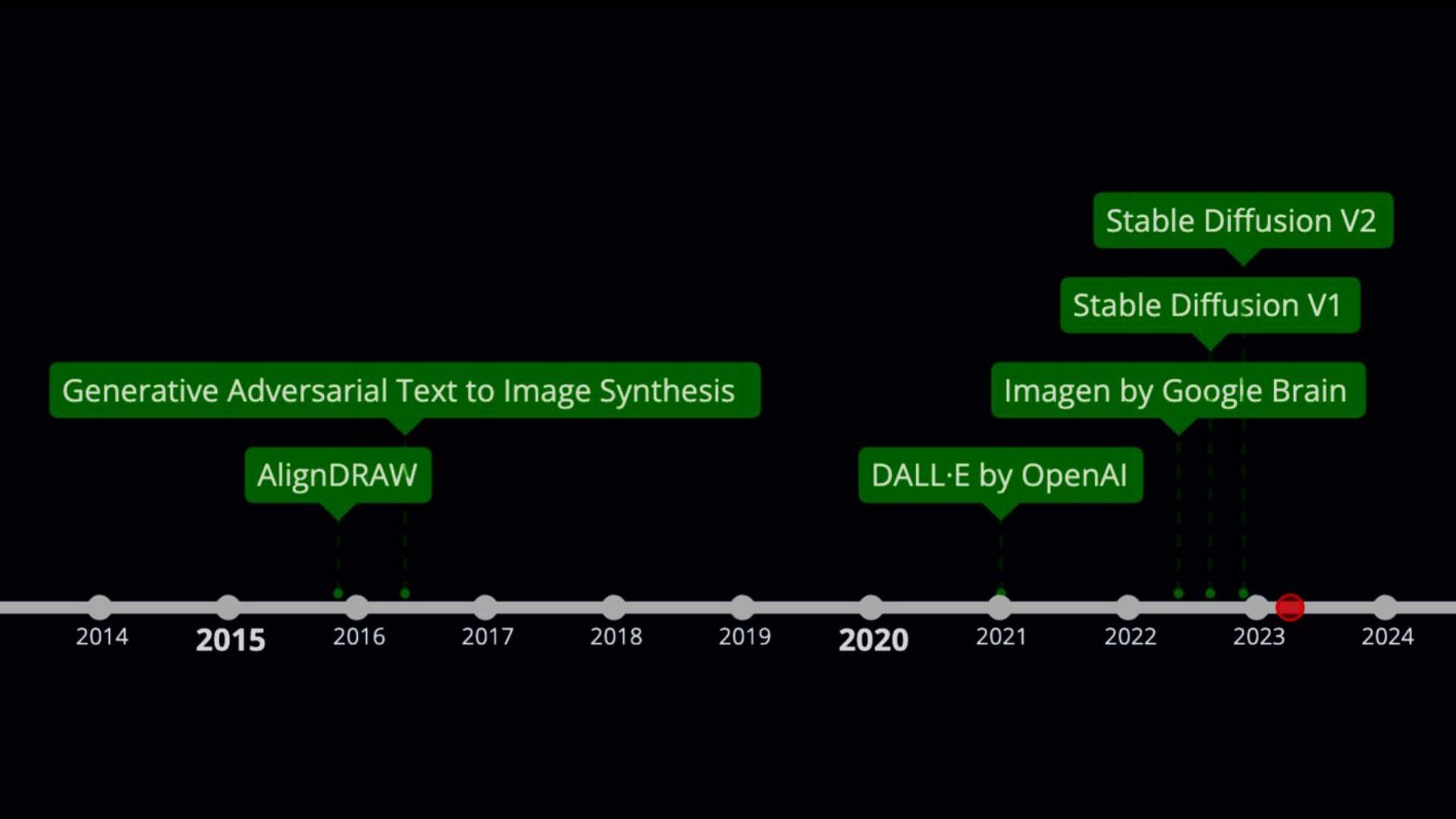


Midjourney

stability.ai

GOOGLE

IMAGEN AI



Generative Adversarial Text to Image Synthesis

AlignDRAW

DALL·E by OpenAI

Imagen by Google Brain

Stable Diffusion V1

Stable Diffusion V2

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



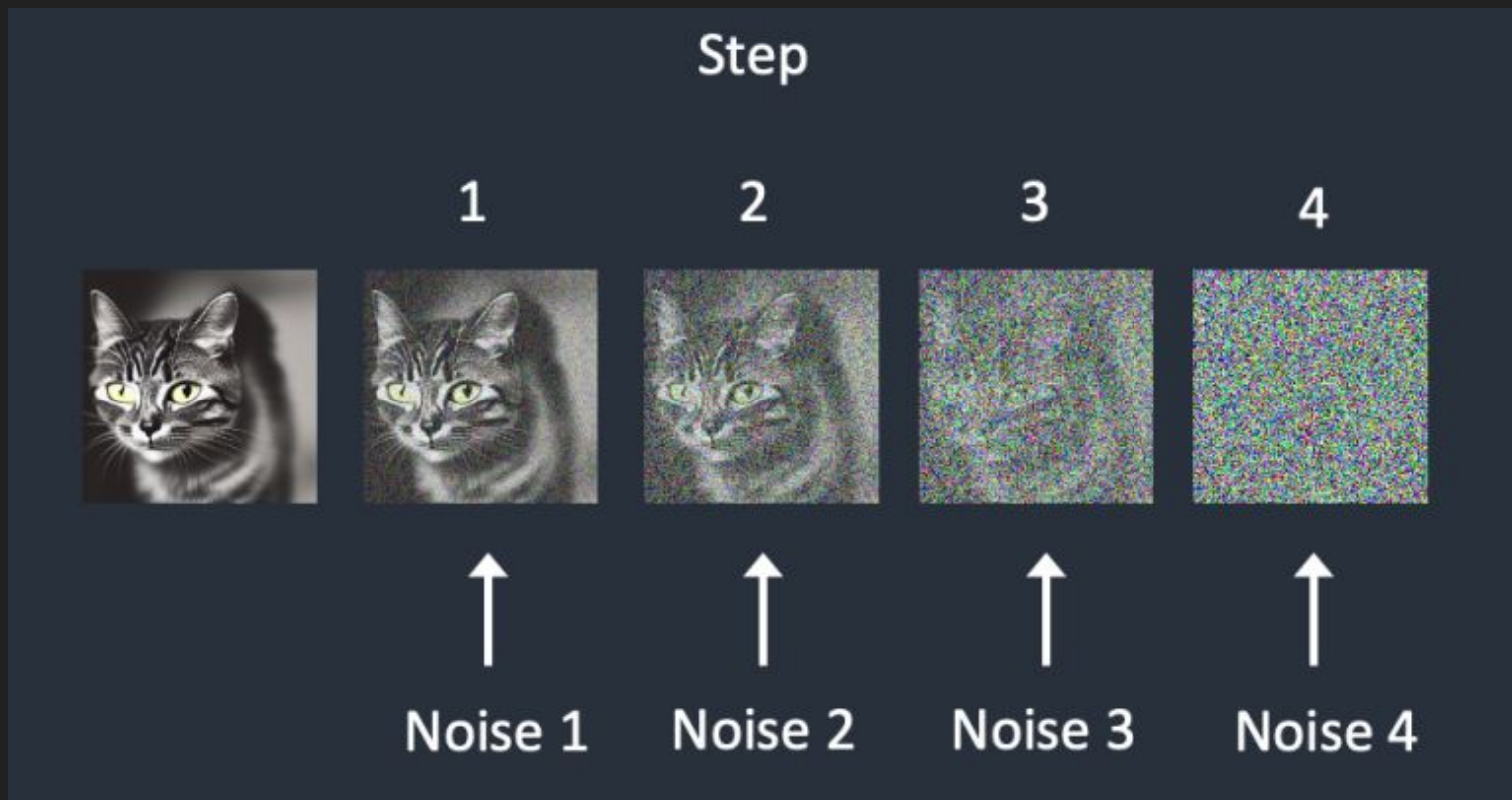
COMO FUNCIONA

Stable Diffusion

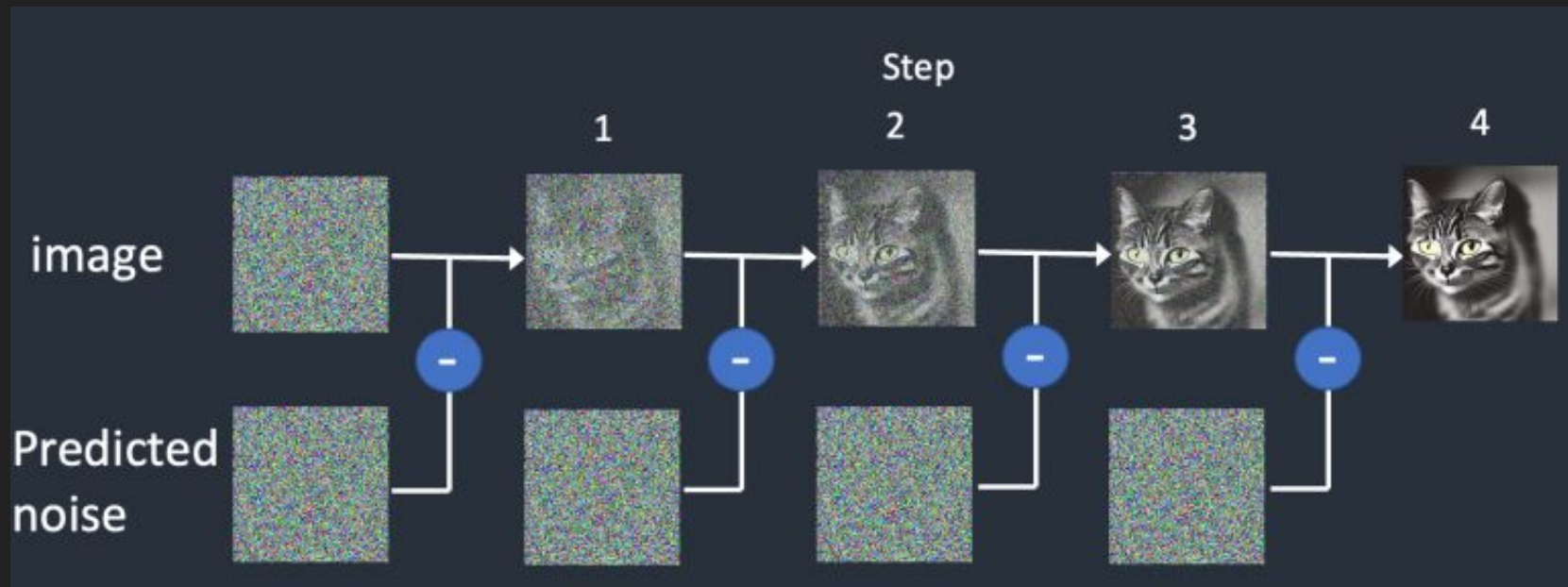
Forward diffusion



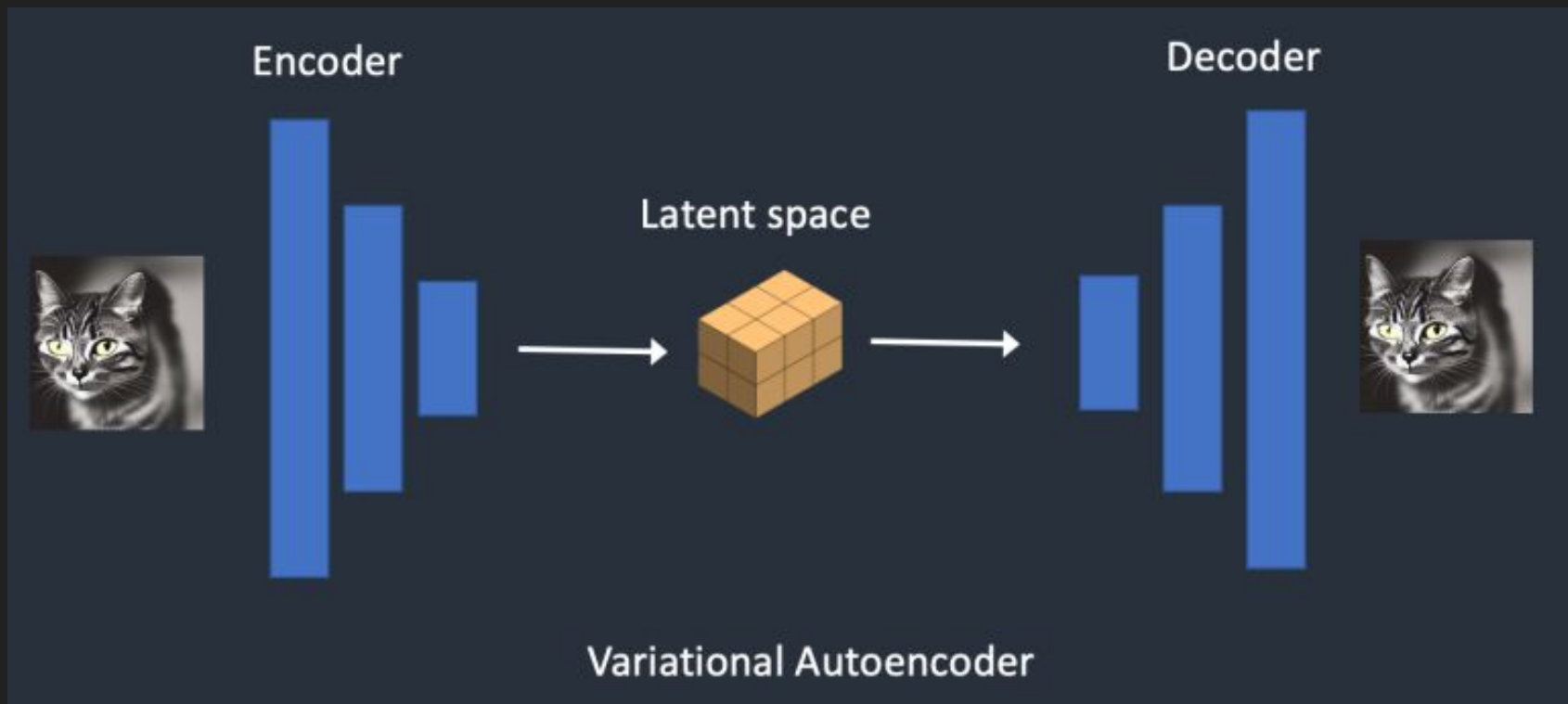
Stable Diffusion



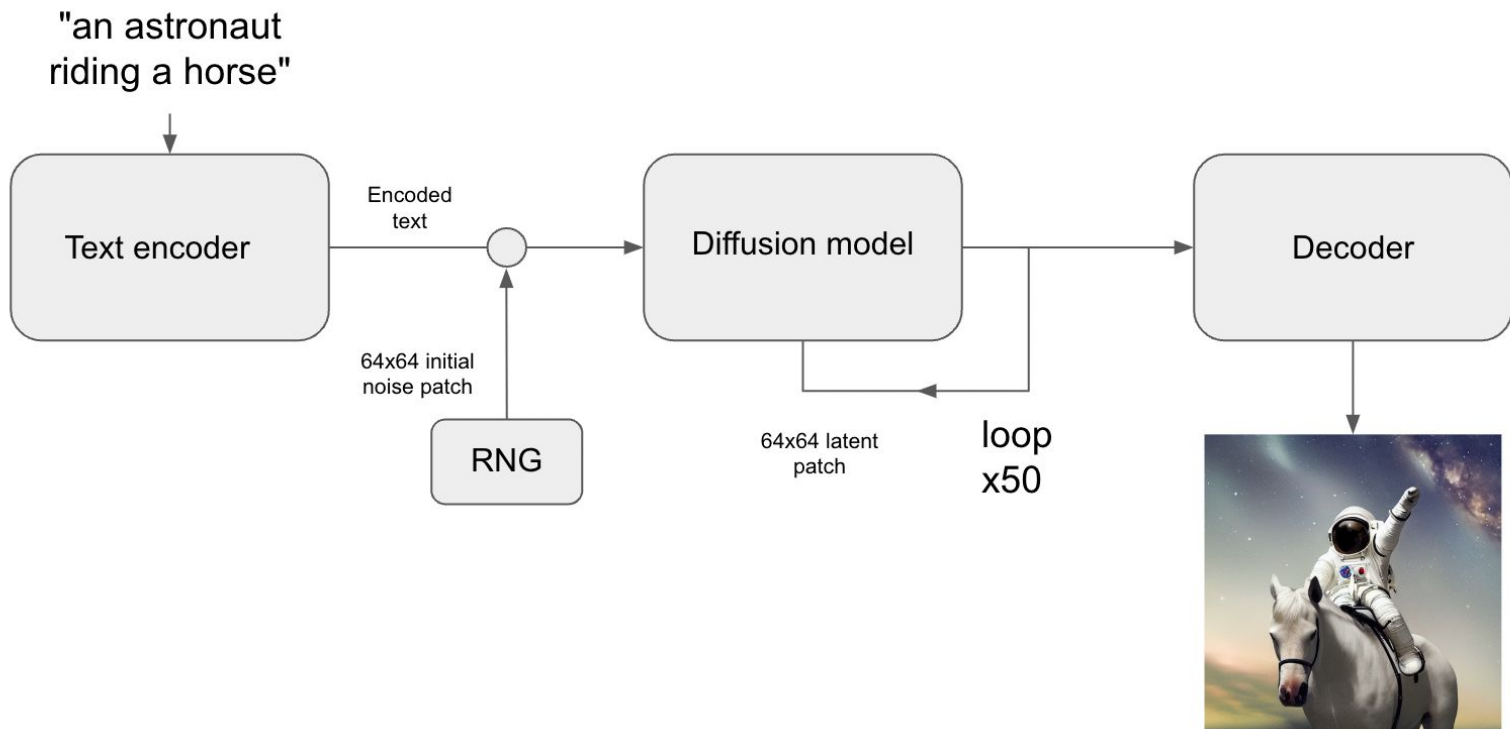
Stable Diffusion



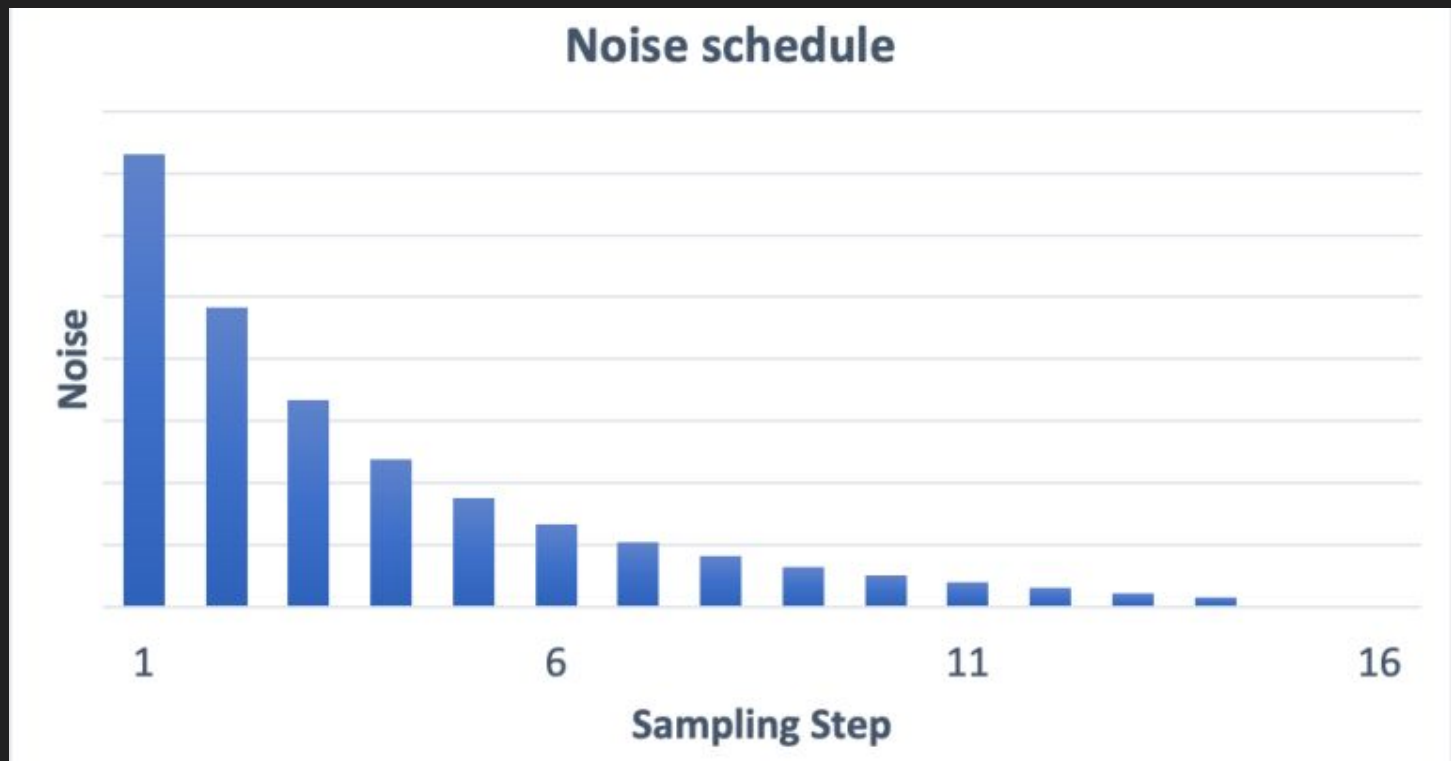
Stable Diffusion



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



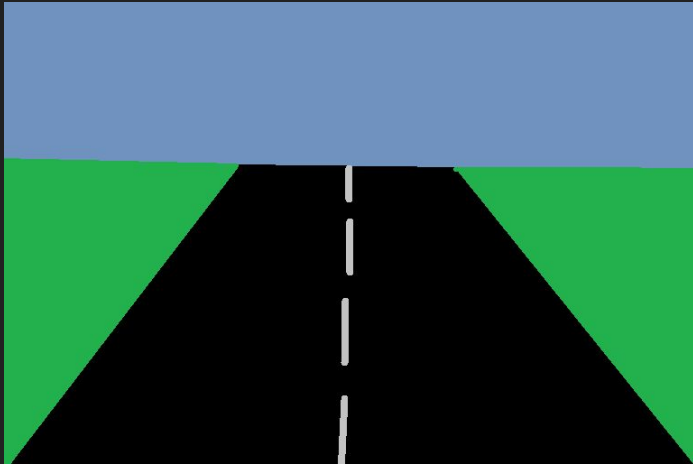
txt2img



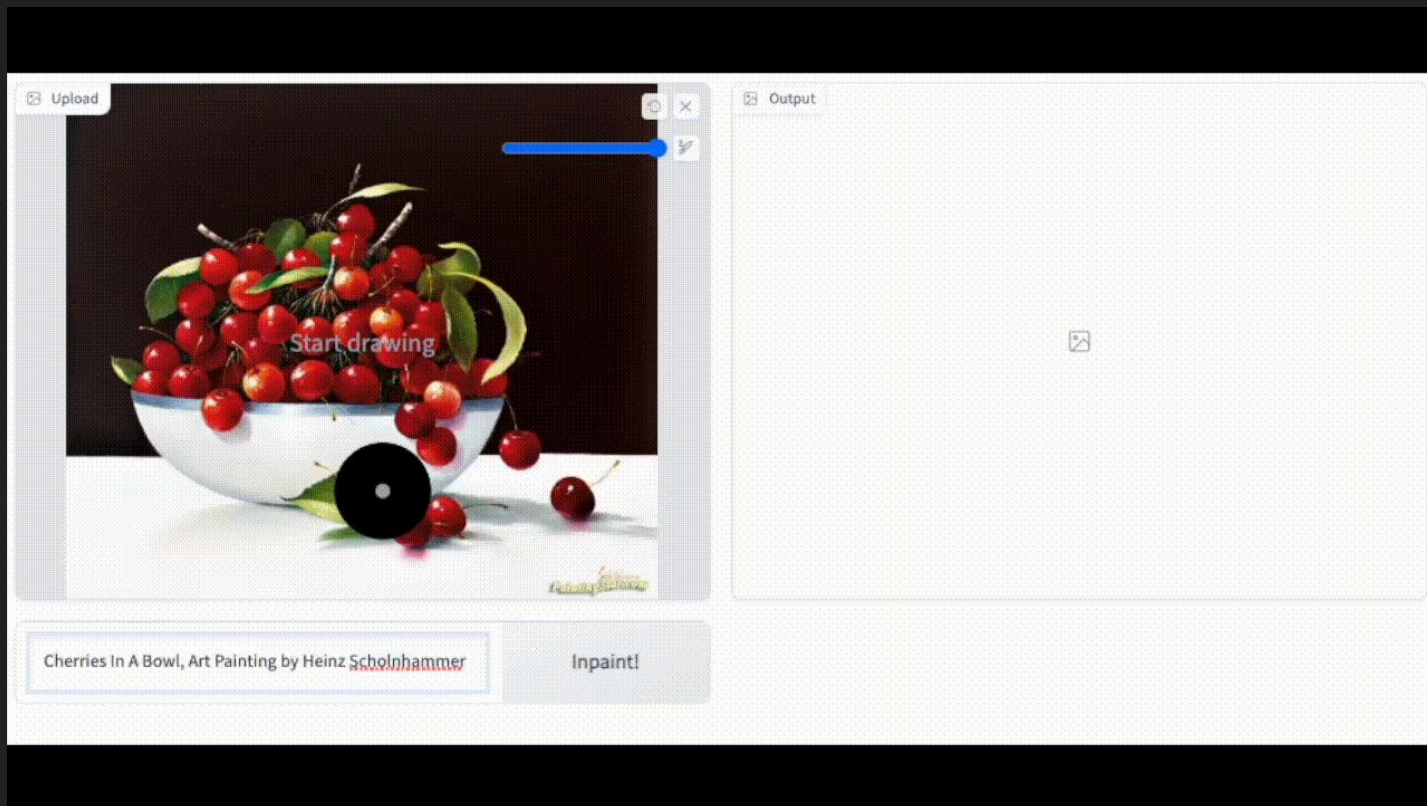
img2img

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

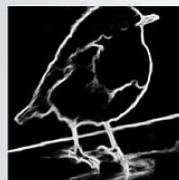


Control Net

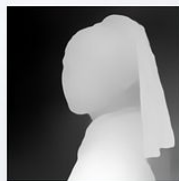
Text-to-Image Generation with ControlNet Conditioning



Canny edge



HED edge



Depth areas



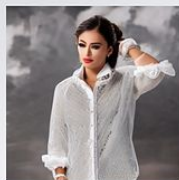
Scribbles



Normal map



OpenPose bone



Segmentation



M-LSD line



Control Net



Source image
(for canny edge detection)

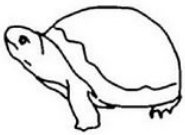





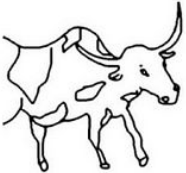












Canny edge (input)

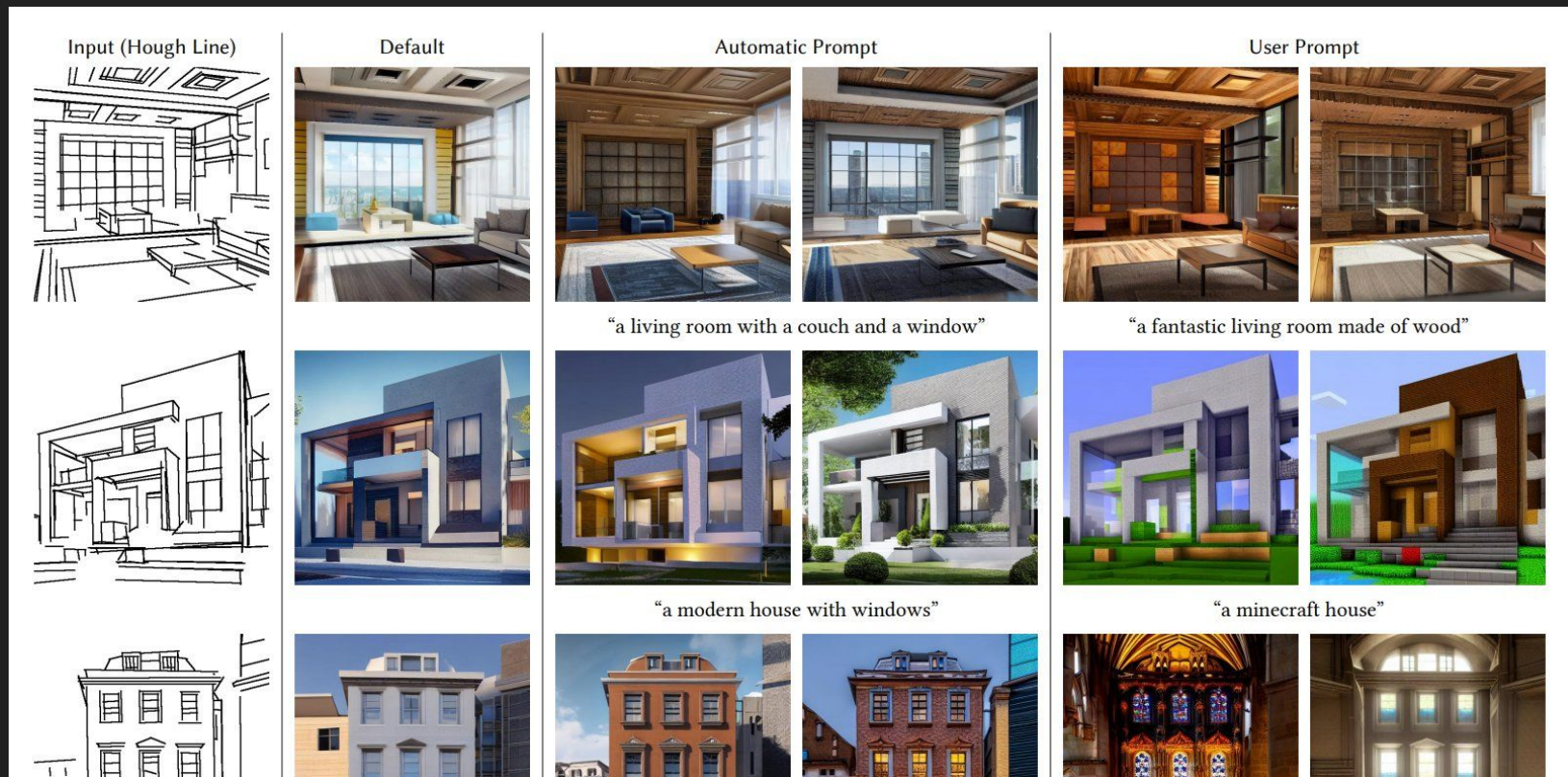


Generated images (output)

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



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



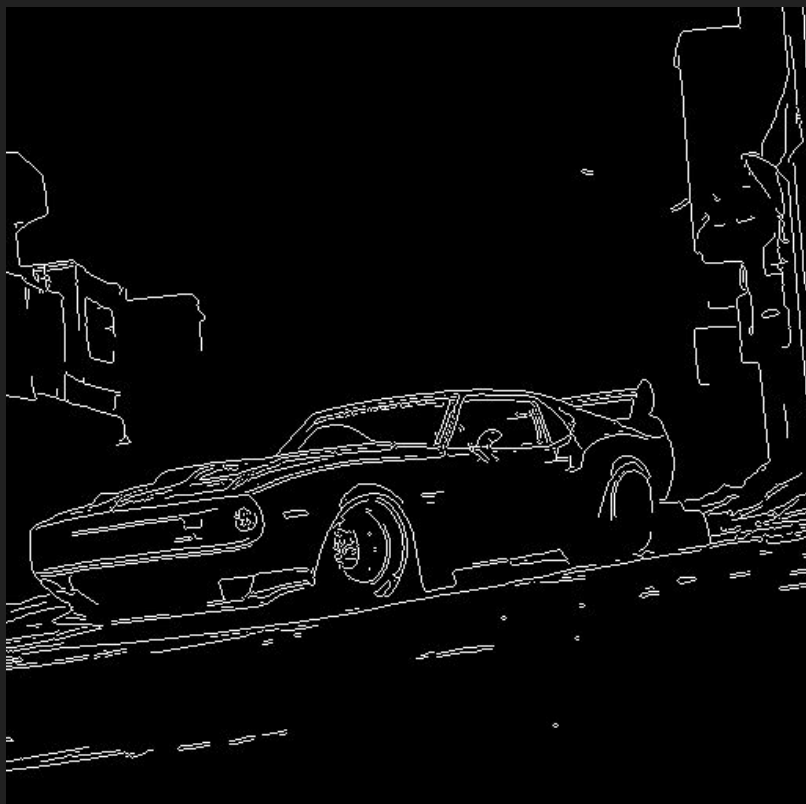
img2img



controlnet



controlnet



inpainting



Como utilizar Stable Diffusion

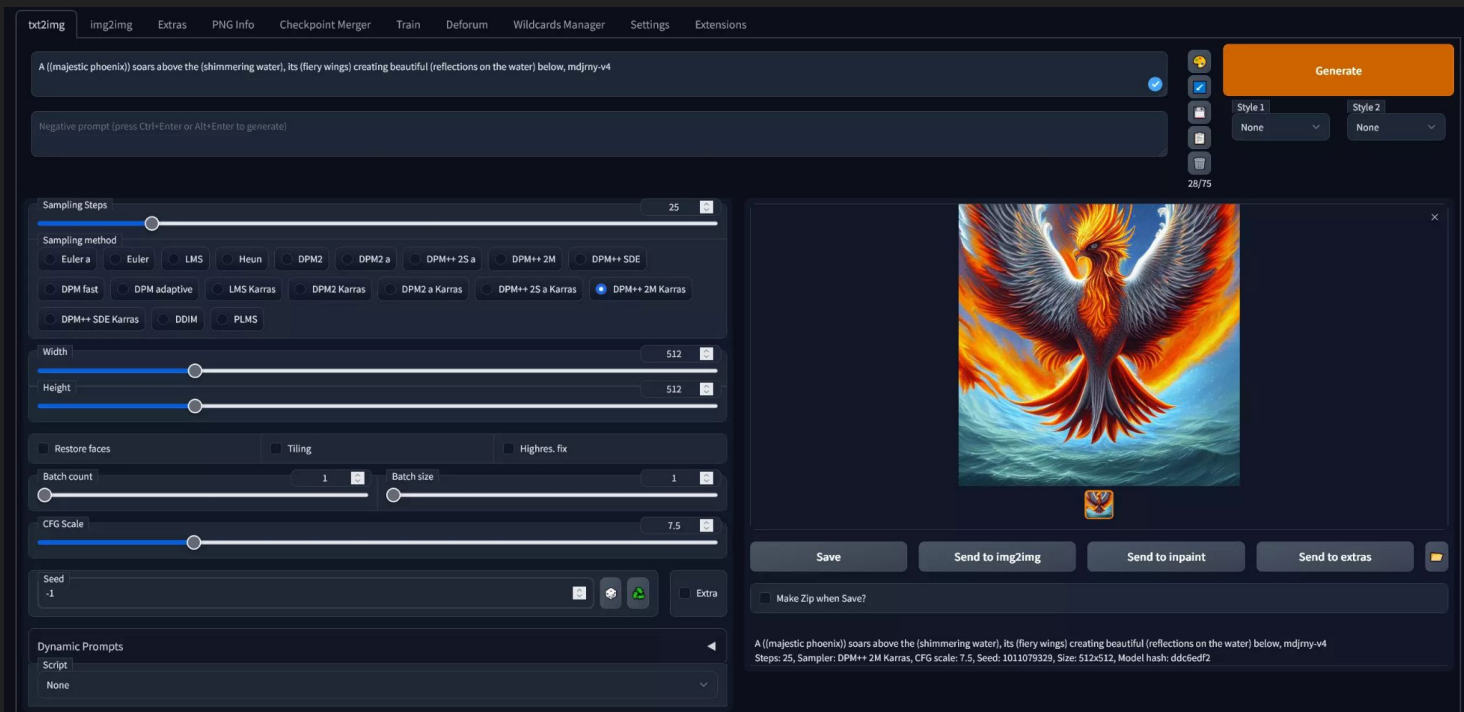
3 OPÇÕES PRINCIPAIS

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](#)



The screenshot displays the Automatic 1111 web interface for Stable Diffusion. The main prompt is "A ((majestic phoenix)) soars above the (shimmering water), its (fiery wings) creating beautiful (reflections on the water) below, mdjrmv-v4". The negative prompt is empty. The generation settings are as follows:

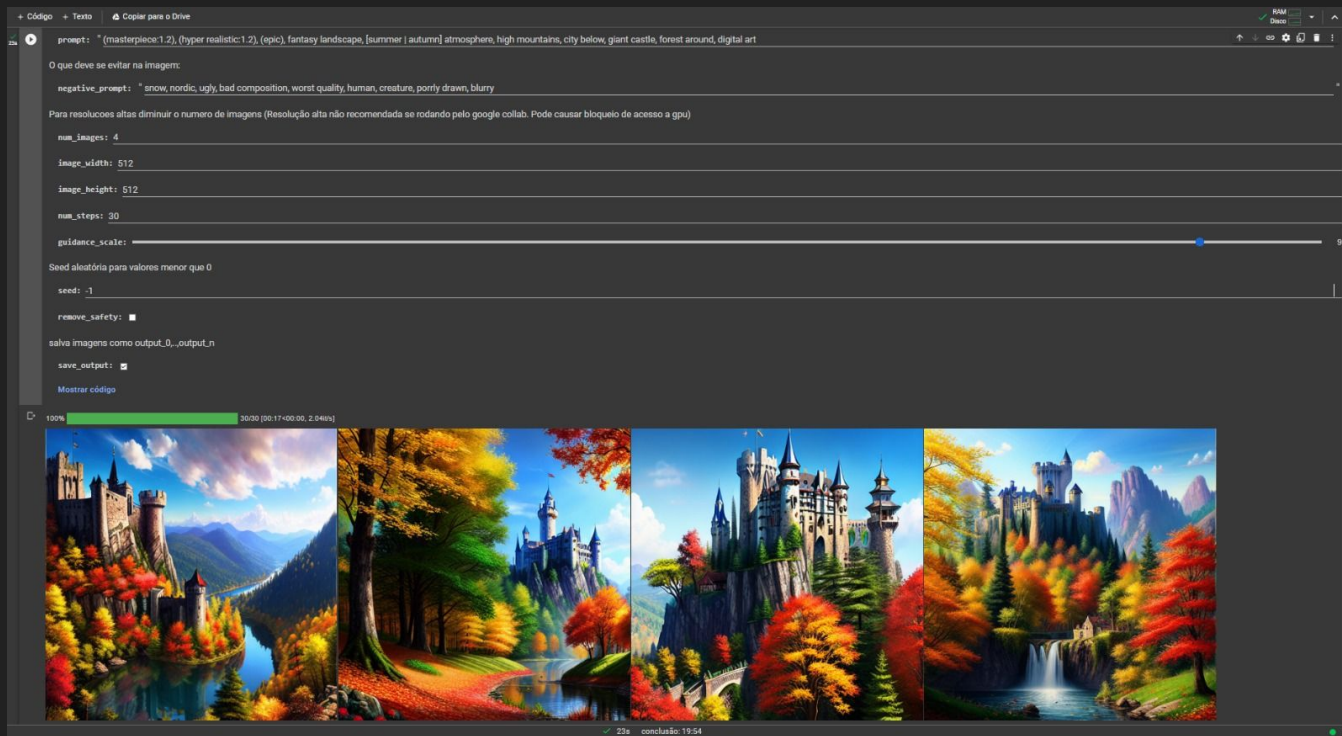
- Sampling Steps: 25
- Sampling method: DPM++ 2M Karras (selected)
- Width: 512
- Height: 512
- Batch count: 1
- Batch size: 1
- CFG Scale: 7.5
- Seed: -1

The generated image shows a majestic phoenix with fiery wings soaring above shimmering water. The interface also includes a "Generate" button, style selection (Style 1: None, Style 2: None), and a preview window with a close button. Below the preview window are buttons for "Save", "Send to img2img", "Send to inpaint", and "Send to extras". A checkbox for "Make Zip when Save?" is also present.

Metadata for the generated image: A ((majestic phoenix)) soars above the (shimmering water), its (fiery wings) creating beautiful (reflections on the water) below, mdjrmv-v4
Steps: 25, Sampler: DPM++ 2M Karras, CFG scale: 7.5, Seed: 1011079329, Size: 512x512, Model hash: dd6edf2

Como utilizar Stable Diffusion

Rodar remotamente (Google Collab, Paperspace, Vast AI)



The screenshot displays a web-based interface for running Stable Diffusion. At the top, there are tabs for '+ Código' and '+ Texto', and a link 'Copiar para o Drive'. The main area contains a text input field with the prompt: `prompt: "(masterpiece:1.2), (hyper realistic:1.2), (epic, fantasy landscape, [summer | autumn] atmosphere, high mountains, city below, giant castle, forest around, digital art`. Below this is a section titled 'O que deve se evitar na imagem:' with a negative prompt: `negative_prompt: "snow, nordic, ugly, bad composition, worst quality, human, creature, poorly drawn, blurry`. A note states: 'Para resolucoes altas diminuir o numero de imagens (Resolução alta não recomendada se rodando pelo google collab. Pode causar bloqueio de acesso a gpu)'. The interface includes several parameters: `num_images: 4`, `image_width: 512`, `image_height: 512`, `num_steps: 30`, and a slider for `guidance_scale` set to 9. There is a checkbox for `remove_safety:` and a `seed: -1` field. A progress bar at the bottom shows 100% completion with a timer of 30/30 [00:11+00:00, 2.04s]. At the bottom, four generated images are displayed, each showing a different view of a castle in a vibrant autumn landscape with mountains and water.

Como utilizar Stable Diffusion

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

The screenshot displays the Dreamlike.art web interface for generating AI images. On the left is a navigation sidebar with options like 'Create', 'Profile', 'FAQ', 'Guide', 'Settings', 'Discord', and 'Twitter'. The main control area includes:

- Tool:** 'What do you want to do?' with 'Generate' and 'Enhance' buttons.
- Model:** 'Determines the overall style & base resolution'. Selected: 'Dreamlike Diffusion 1.0' (General, Artistic, 640x640px).
- Prompt:** 'robot ninja mask helmet metal gear solid training suit swat commando, aesthetic octane render, 8 k hd resolution, by iya kuvshinov and cushart krentz and gilleard james, by carl warner and jim woodring, trending on artstation : 1.5, sweet joy harmony color scheme'. Includes 'Clear' and 'Random' buttons.
- Negative Prompt:** 'out of frame, duplicate, watermark, signature, text'. Includes 'Clear' and 'General' buttons.
- Number of Images (2):** 'How many Images to generate'. A slider is set to 2.
- Initial Image:** 'Drag and drop your image here' with an 'Upload' button.
- Aspect Ratio:** 'Portrait (3:4)' is selected. Other options: 'Landscape (4:3)', 'Square (1:1)', 'Mobile (9:16)', 'Desktop (16:9)'.
- Mode:** 'Advanced mode shows rarely used parameters'. 'Simplified' and 'Advanced' buttons are present.
- Generate 2 images (2.2 credits)** button with 'Ctrl + G' shortcut.

The right side of the interface shows a grid of 18 generated images, including:

- Two different styles of owls.
- Two different styles of Yoda.
- Two different styles of anime-style female characters.
- Three different styles of ice cream cones.
- Two different styles of a muscular man in a gold and black outfit.
- Two different styles of a woman in a blue and black outfit.
- Two different styles of a landscape with a path and mountains.

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 repositório contém 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.

