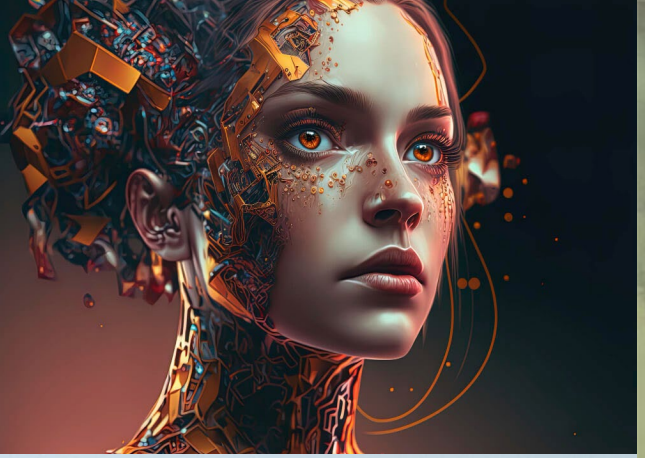
Generación de imágenes con Inteligencia Articial

Nahuel Costa Cortez



Contenido del curso

01

- Introducción a las IAs generativas
- Ejemplos de aplicaciones populares
- Primeras generaciones

02

- Procesamiento de imágenes
- Cómo funcionan las IAs generativas
- Herramientas open source vs productos propietarios
- Casos de uso

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- Prompt engineering
- Modelos image to text
- Transferencia de estilos
- Ética y Consideraciones Legales

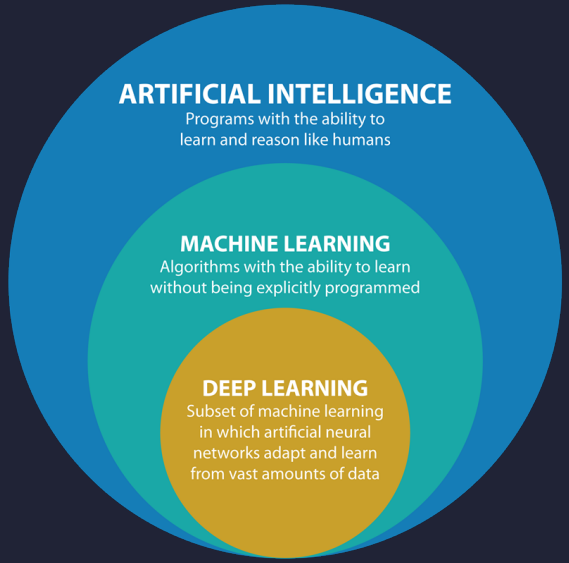
04

- Stable diffusion
- Crea tu propio avatar
- Perspectivas futuras

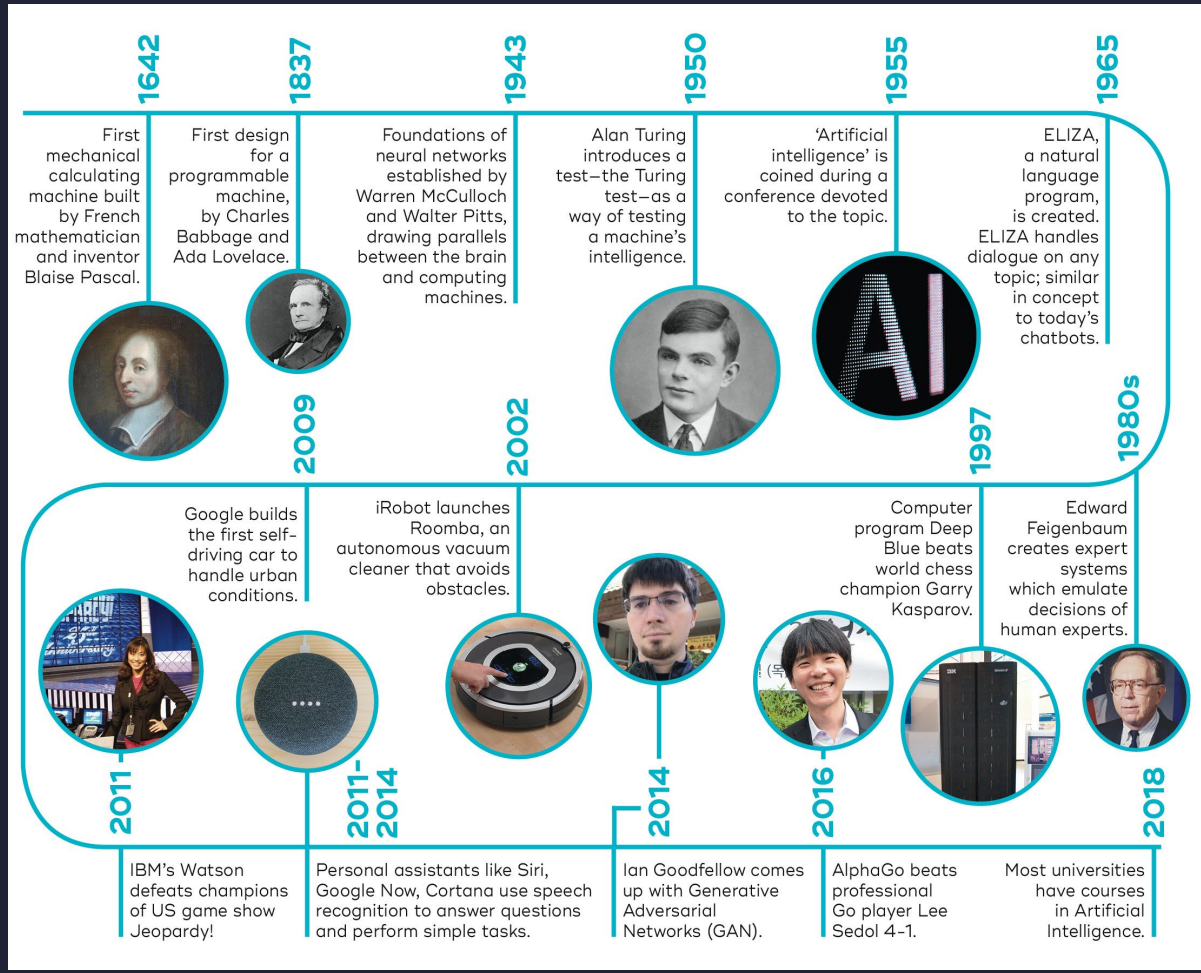
01

Inteligencia Artificial

Qué es y cómo hemos llegado hasta el punto actual



“Capacidad de las máquinas y los sistemas de software para realizar tareas que, en teoría, requerirían inteligencia humana para ser realizadas”


1642
First mechanical calculating machine built by French mathematician and inventor Blaise Pascal.
1837
First design for a programmable machine, by Charles Babbage and Ada Lovelace.
1943
Foundations of neural networks established by Warren McCulloch and Walter Pitts, drawing parallels between the brain and computing machines.
1950
Alan Turing introduces a test—the Turing test—as a way of testing a machine's intelligence.
1955
'Artificial intelligence' is coined during a conference devoted to the topic.
1965
ELIZA, a natural language program, is created. ELIZA handles dialogue on any topic; similar in concept to today's chatbots.
1980s
Edward Feigenbaum creates expert systems which emulate decisions of human experts.
1997
Computer program Deep Blue beats world chess champion Garry Kasparov.
2002
iRobot launches Roomba, an autonomous vacuum cleaner that avoids obstacles.
2009
Google builds the first self-driving car to handle urban conditions.
2011
IBM's Watson defeats champions of US game show Jeopardy!
2011-2014
Personal assistants like Siri, Google Now, Cortana use speech recognition to answer questions and perform simple tasks.
2014
Ian Goodfellow comes up with Generative Adversarial Networks (GAN).
2016
AlphaGo beats professional Go player Lee Sedol 4-1.
2018
Most universities have courses in Artificial Intelligence.

Evolución

IMAGENET

2012

Reconocimiento de objetos

Desbloqueo móvil

Sistemas de recomendación

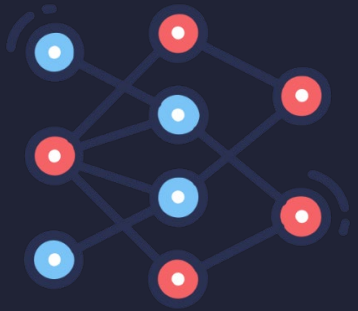
APLICACIONES

2015

Autocorrector móvil

Asistentes virtuales

Detección de spam

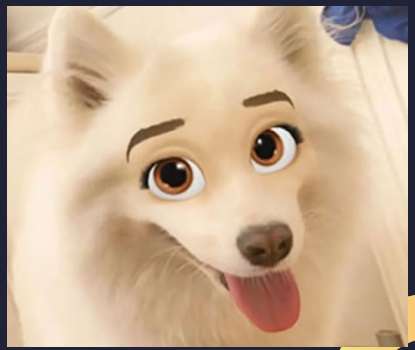


MODELOS GENERATIVOS

2016

Filtros en redes sociales

Aplicaciones de diseño



Evolución

Transformers

2017

Aplicaciones

Plegado de proteínas

Generación texto

Generación código

Generación imágenes

GPTs

2018

GPT

2019

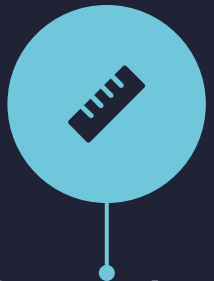
GPT-2

2020/2022

GPT3/3.5

2023/2024

GPT4/4o



GPT3 ~ 1,024 GPUs

GPT3.5 ~ 10,000 GPUs

GPT4 ~ 25,000 GPUs

DALL-E

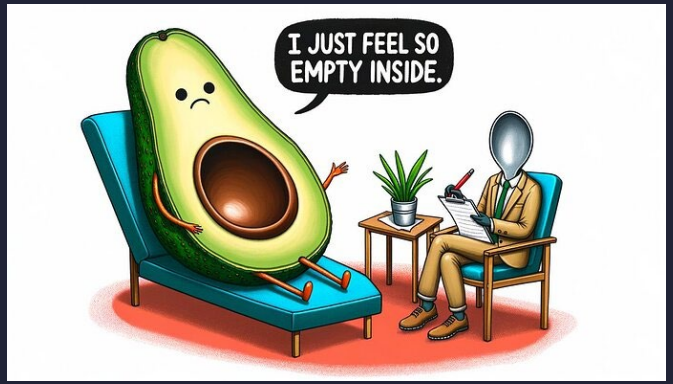
DALL-E 1

2021

DALL-E 2

2022

DALL-E 3



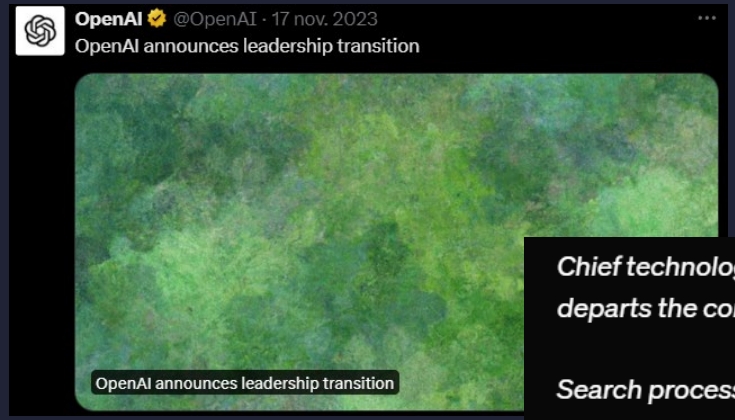
2023

OpenAI forms exclusive computing partnership with Microsoft to build new Azure AI supercomputing technologies

July 22, 2019 | Microsoft News Center

This agreement follows our previous investments in 2019 and 2021. It extends our ongoing collaboration across AI supercomputing and research and enables each of us to independently commercialize the resulting advanced AI technologies.

- **Supercomputing at scale** – Microsoft will increase our investments in the development and deployment of specialized supercomputing systems to accelerate OpenAI's groundbreaking independent AI research. We will also continue to build out Azure's leading AI infrastructure to help customers build and deploy their AI applications on a global scale.
- **New AI-powered experiences** – Microsoft will deploy OpenAI's models across our consumer and enterprise products and introduce new categories of digital experiences built on OpenAI's technology. This includes Microsoft's Azure OpenAI Service, which empowers developers to build cutting-edge AI applications through direct access to OpenAI models backed by Azure's trusted, enterprise-grade capabilities and AI-optimized infrastructure and tools.
- **Exclusive cloud provider** – As OpenAI's exclusive cloud provider, Azure will power all OpenAI workloads across research, products and API services.



Viernes, 17 de Noviembre

Chief technology officer Mira Murati appointed interim CEO to lead OpenAI; Sam Altman departs the company.

Search process underway to identify permanent successor.

The board of directors of OpenAI, Inc., the 501(c)(3) that acts as the overall governing body for all OpenAI activities, today announced that Sam Altman will depart as CEO and leave the board of directors. Mira Murati, the company's chief technology officer, will serve as interim CEO, effective immediately.

Ilya Sutskever
@ilyasut

I deeply regret my participation in the board's actions. I never intended to harm OpenAI. I love everything we've built together and I will do everything I can to reunite the company.

Sábado, 18 de Noviembre

The OpenAI board is in discussions with Sam Altman to return to the company as its CEO, according to multiple people familiar with the matter. One of them said Altman, who was suddenly fired by the board on Friday with no notice, is “ambivalent” about coming back and would want significant governance changes.

Update, 5:35PM PT: A source close to Altman says the board had agreed in principle to resign and to allow Altman and Brockman to return, but has since waffled — missing a key 5PM PT deadline by which many OpenAI staffers were set to resign. If Altman decides to leave and start a new company, those staffers would assuredly go with him.

To the Board of Directors at OpenAI,

OpenAI is the world's leading AI company. We, the employees of OpenAI, have developed the best models and pushed the field to new frontiers. Our work on AI safety and governance shapes global norms. The products we built are used by millions of people around the world. Until now, the company we work for and cherish has never been in a stronger position.

The process through which you terminated Sam Altman and removed Greg Brockman from the board has jeopardized all of this work and undermined our mission and company. Your conduct has made it clear you did not have the competence to oversee OpenAI.

When we all unexpectedly learned of your decision, the leadership team of OpenAI acted swiftly to stabilize the company. They carefully listened to your concerns and tried to cooperate with you on all grounds. Despite many requests for specific facts for your allegations, you have never provided any written evidence. They also increasingly realized you were not capable of carrying out your duties, and were negotiating in bad faith.

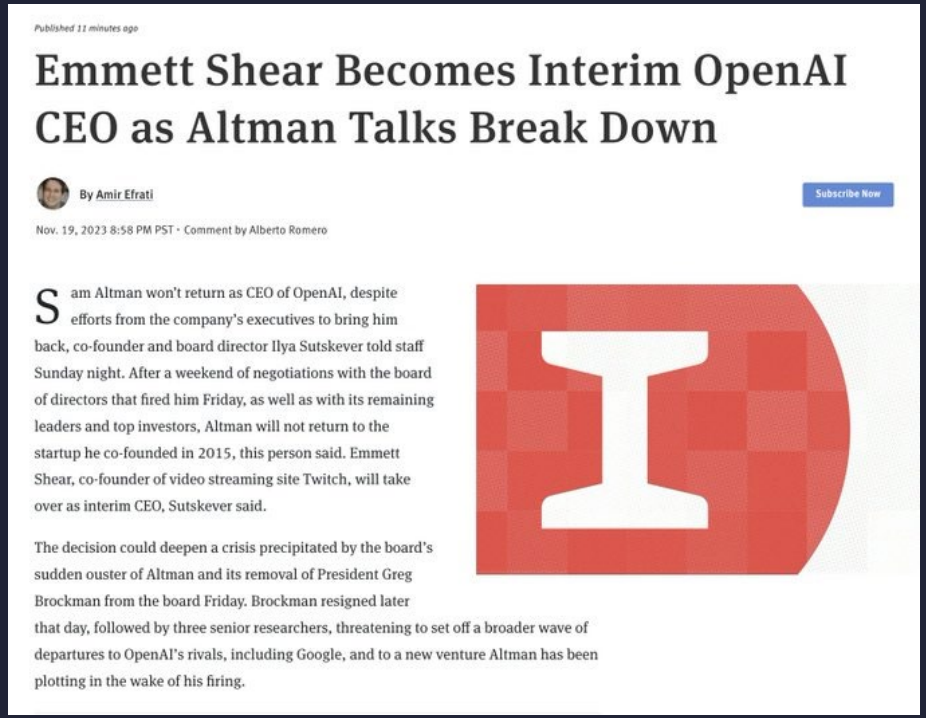
The leadership team suggested that the most stabilizing path forward - the one that would best serve our mission, company, stakeholders, employees and the public - would be for you to resign and put in place a qualified board that could lead the company forward in stability. Leadership worked with you around the clock to find a mutually agreeable outcome. Yet within two days of your initial decision, you again replaced interim CEO Mira Murati against the best interests of the company. You also informed the leadership team that allowing the company to be destroyed "would be consistent with the mission."

Your actions have made it obvious that you are incapable of overseeing OpenAI. We are unable to work for or with people that lack competence, judgement and care for our mission and employees. We, the undersigned, may choose to resign from OpenAI and join the newly announced Microsoft subsidiary run by Sam Altman and Greg Brockman. Microsoft has assured us that there are positions for all OpenAI employees at this new subsidiary should we choose to join. We will take this step imminently, unless all current board members resign, and the board appoints two new lead independent directors, such as Bret Taylor and Will Hurd, and reinstates Sam Altman and Greg Brockman.

1. Mira Murati
2. Brad Lightcap
3. Jason Kwon
4. Wojciech Zaremba
5. Alec Radford
6. Anna Makanju
7. Bob McGrew
8. Srinivas Narayanan
9. Che Chang
10. Lillian Weng
11. Mark Chen
12. Ilya Sutskever

Domingo, 19 de Noviembre

Domingo, 19 de Noviembre



Published 11 minutes ago

Emmett Shear Becomes Interim OpenAI CEO as Altman Talks Break Down

By Amir Efrati

Subscribe Now

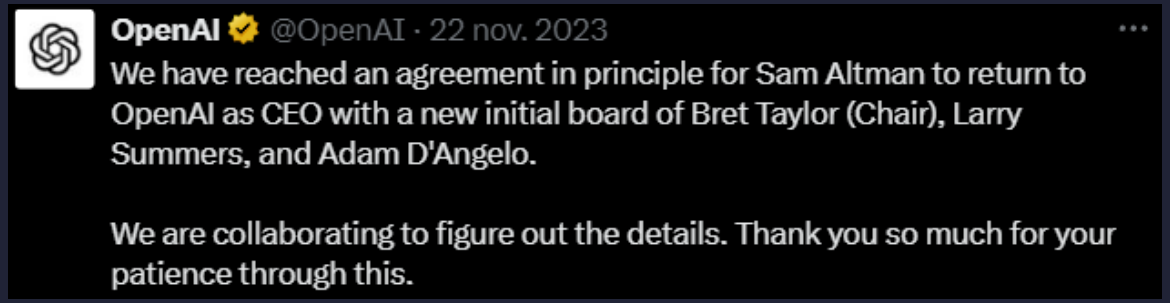
Nov. 19, 2023 8:58 PM PST · Comment by Alberto Romero

Sam Altman won't return as CEO of OpenAI, despite efforts from the company's executives to bring him back, co-founder and board director Ilya Sutskever told staff Sunday night. After a weekend of negotiations with the board of directors that fired him Friday, as well as with its remaining leaders and top investors, Altman will not return to the startup he co-founded in 2015, this person said. Emmett Shear, co-founder of video streaming site Twitch, will take over as interim CEO, Sutskever said.

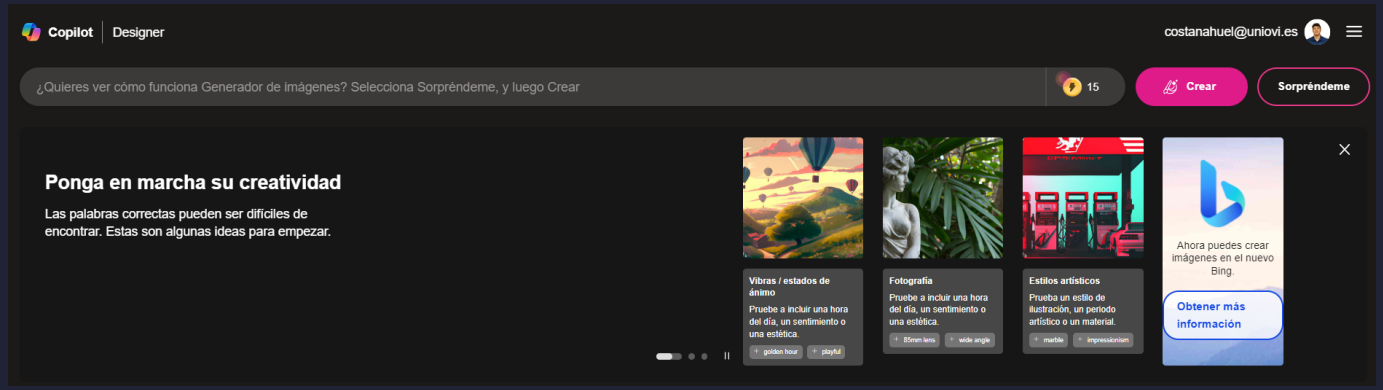
The decision could deepen a crisis precipitated by the board's sudden ouster of Altman and its removal of President Greg Brockman from the board Friday. Brockman resigned later that day, followed by three senior researchers, threatening to set off a broader wave of departures to OpenAI's rivals, including Google, and to a new venture Altman has been plotting in the wake of his firing.

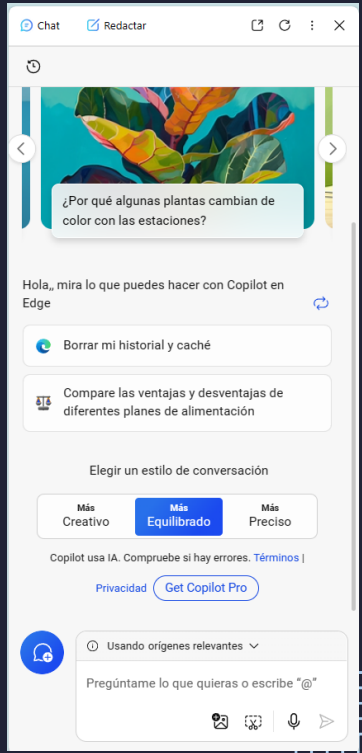
Lunes, 20 de Noviembre

Miércoles, 22 de Noviembre



Primeras generaciones





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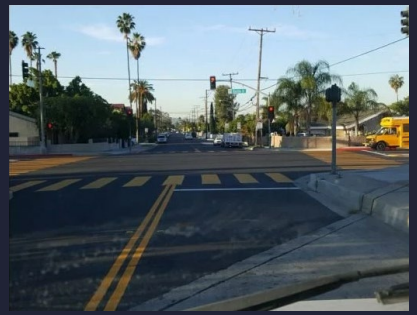
Evolución en modelos de imagen

Tomar una imagen y modificar su estilo

Content image

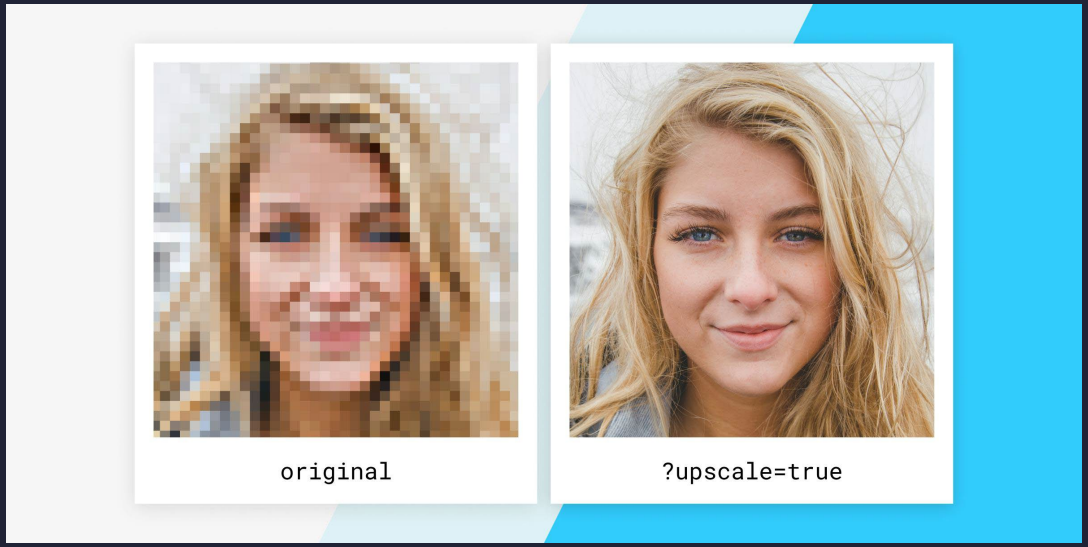
Output image

Tomar una imagen y generar un mapa de segmentación



Tomar una imagen y borrar partes

Tomar una imagen y “restaurarla”

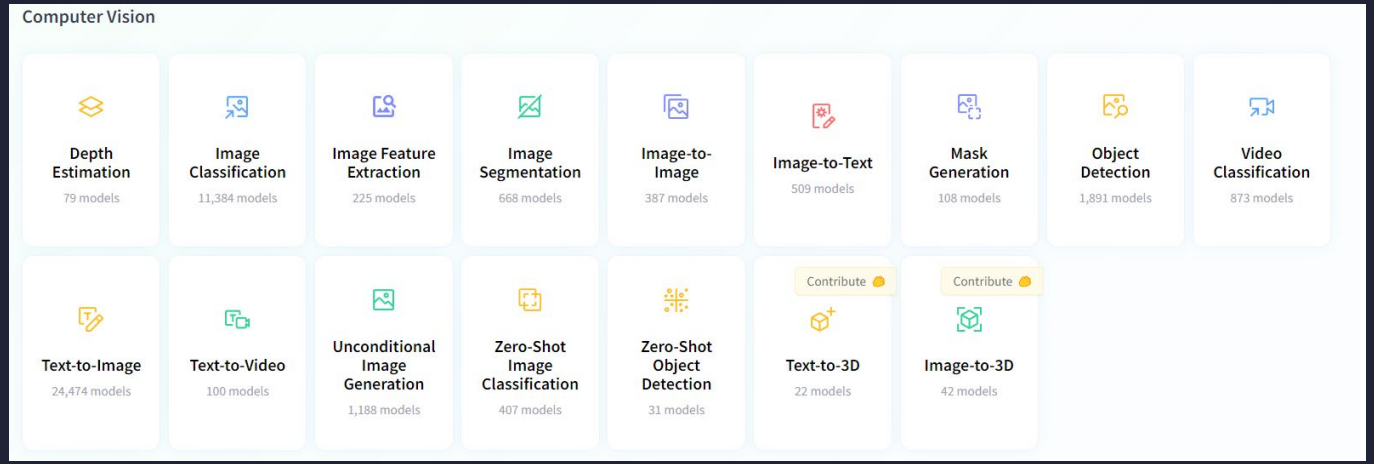


original

?upscale=true

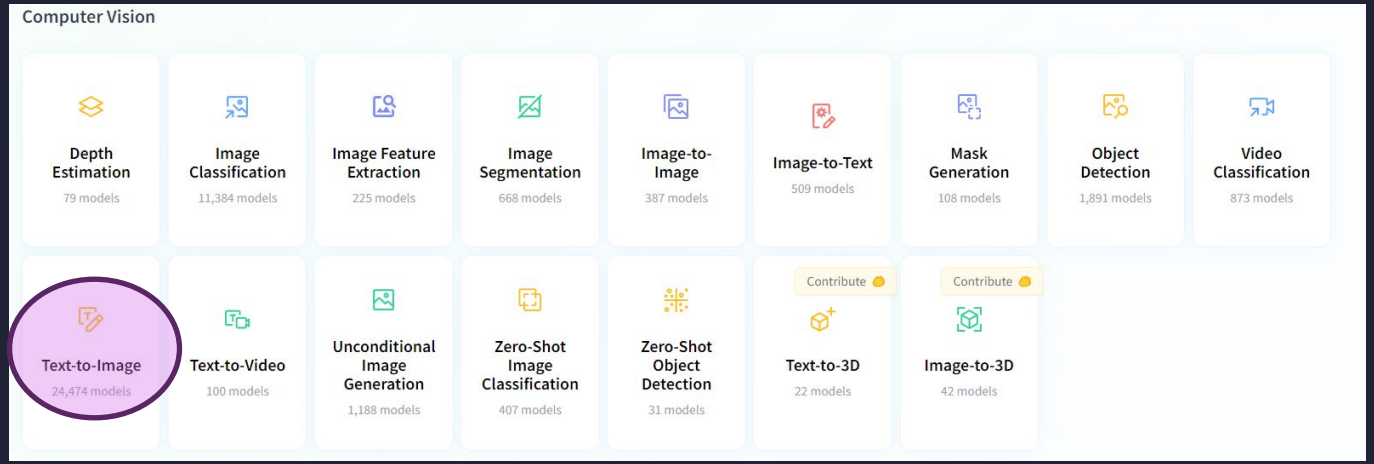
Tomar una imagen y reconstruirla/ampliarla

…y mucho más

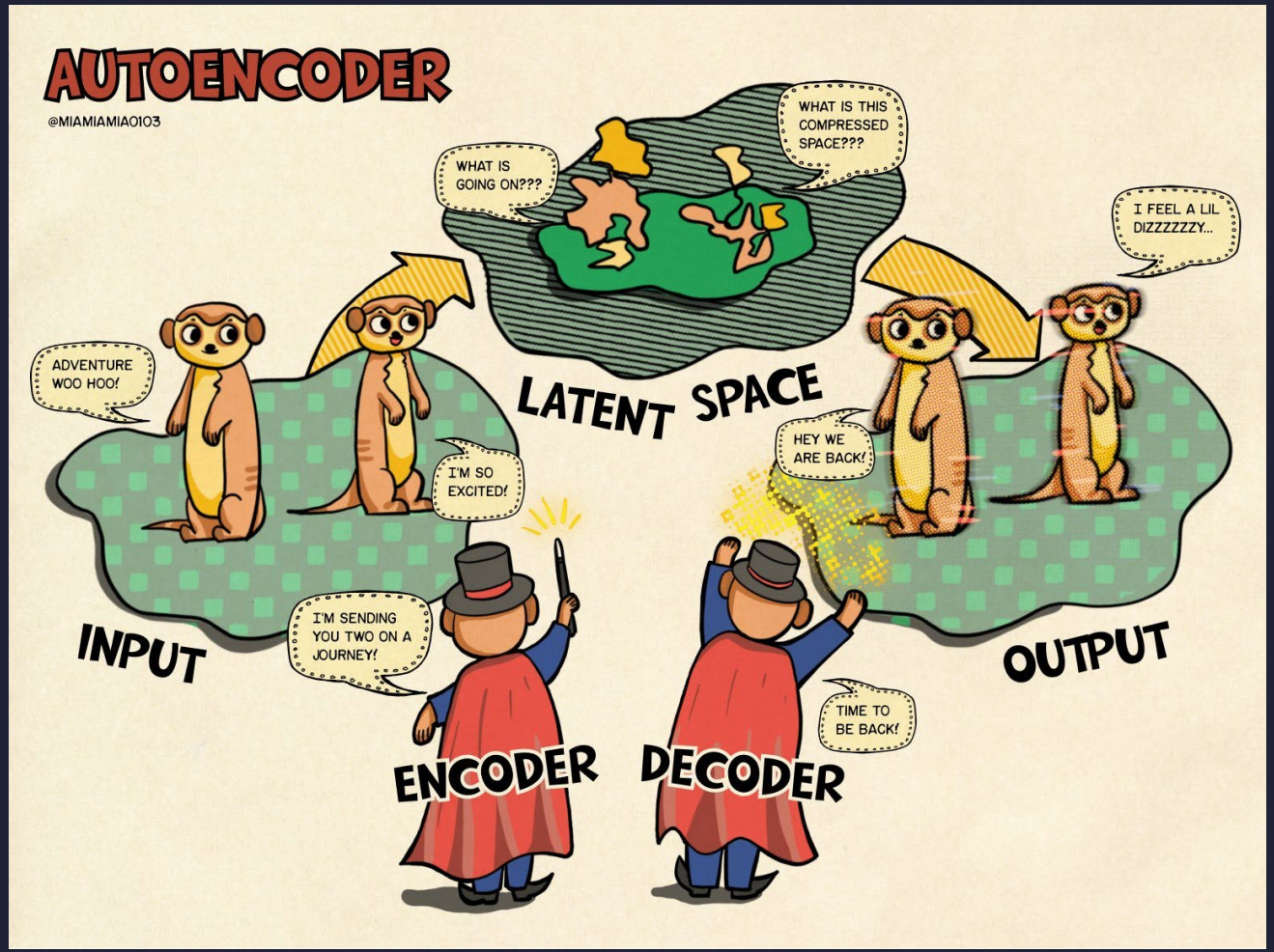


HuggingFace

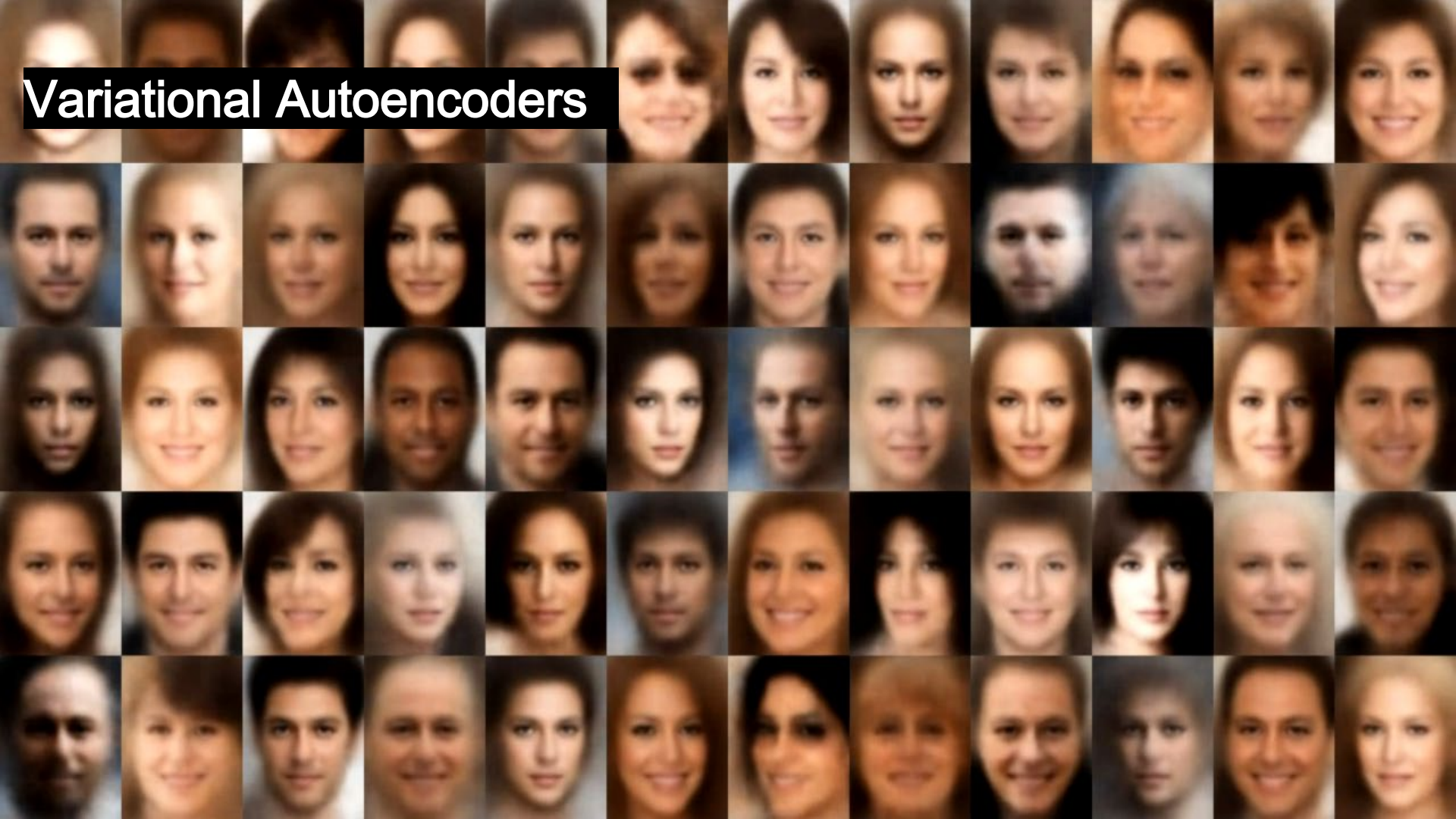
…y mucho más

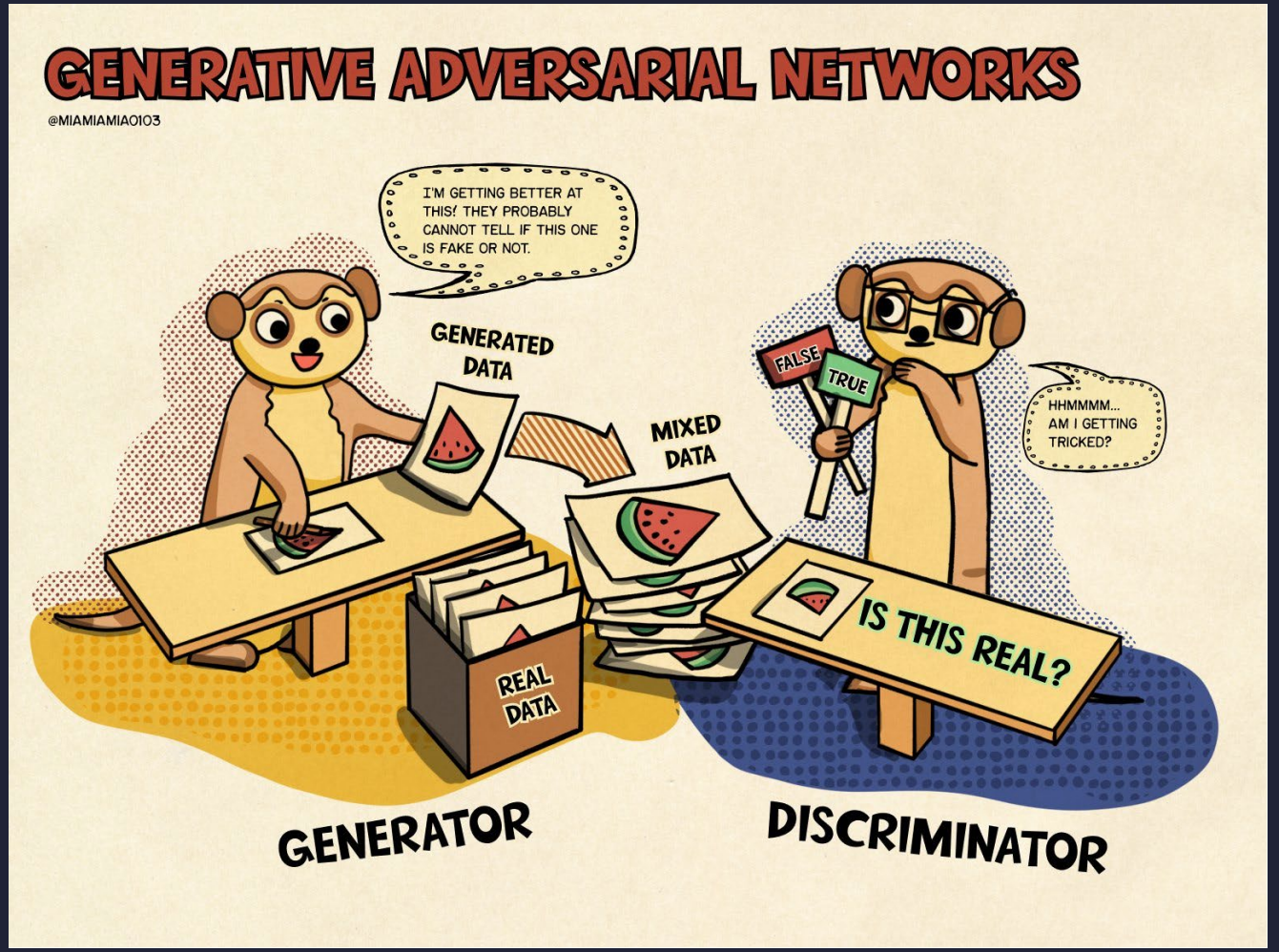


HuggingFace


AUTOENCODER
@MIAMIAMIA0103
WHAT IS GOING ON???
WHAT IS THIS COMPRESSED SPACE???
I FEEL A LIL DIZZZZZZY...
ADVENTURE WOO HOO!
I'M SO EXCITED!
LATENT SPACE
HEY WE ARE BACK!
I'M SENDING YOU TWO ON A JOURNEY!
INPUT
OUTPUT
TIME TO BE BACK!
ENCODER
DECODER

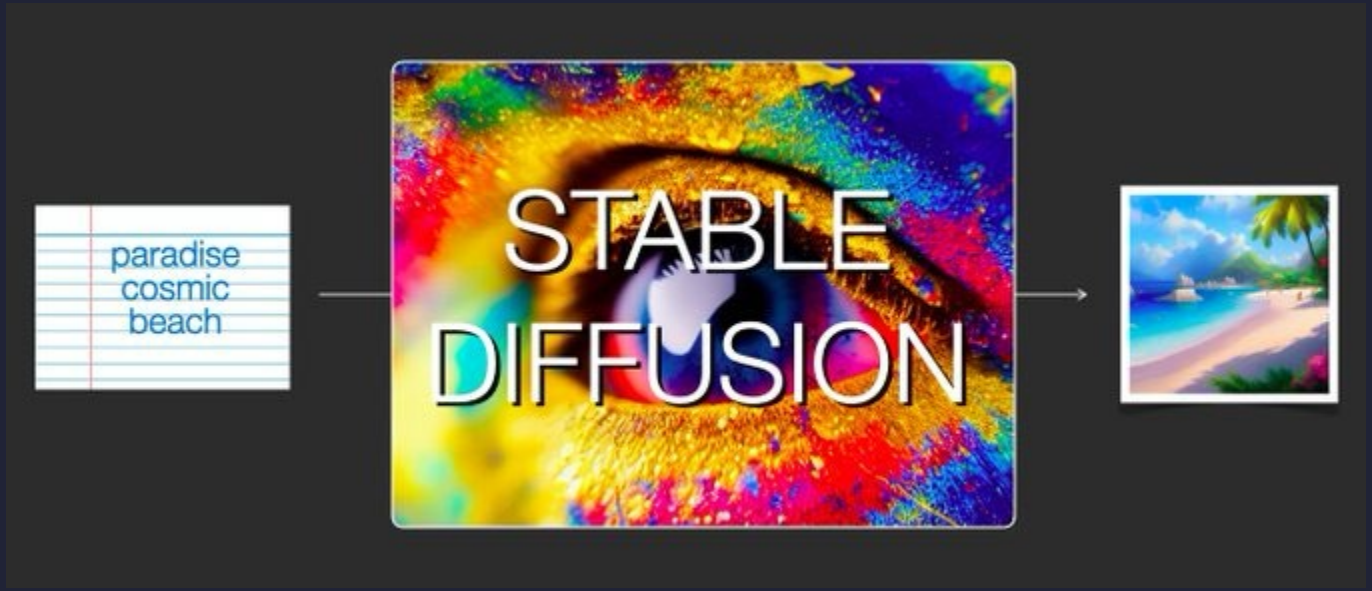
Variational Autoencoders

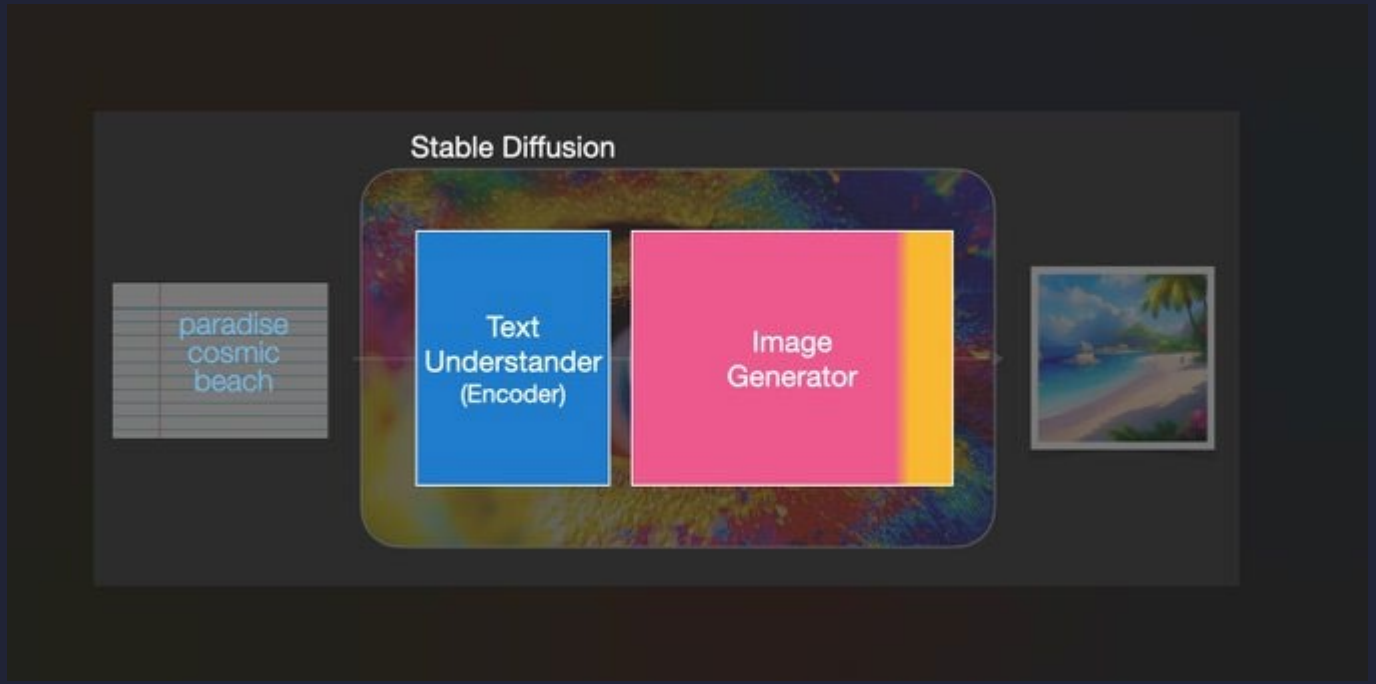



GENERATIVE ADVERSARIAL NETWORKS
@MIAMIAMIA0103
I'M GETTING BETTER AT THIS! THEY PROBABLY CANNOT TELL IF THIS ONE IS FAKE OR NOT.
GENERATED DATA
MIXED DATA
REAL DATA
FALSE
TRUE
HHMMMM... AM I GETTING TRICKED?
IS THIS REAL?
GENERATOR
DISCRIMINATOR

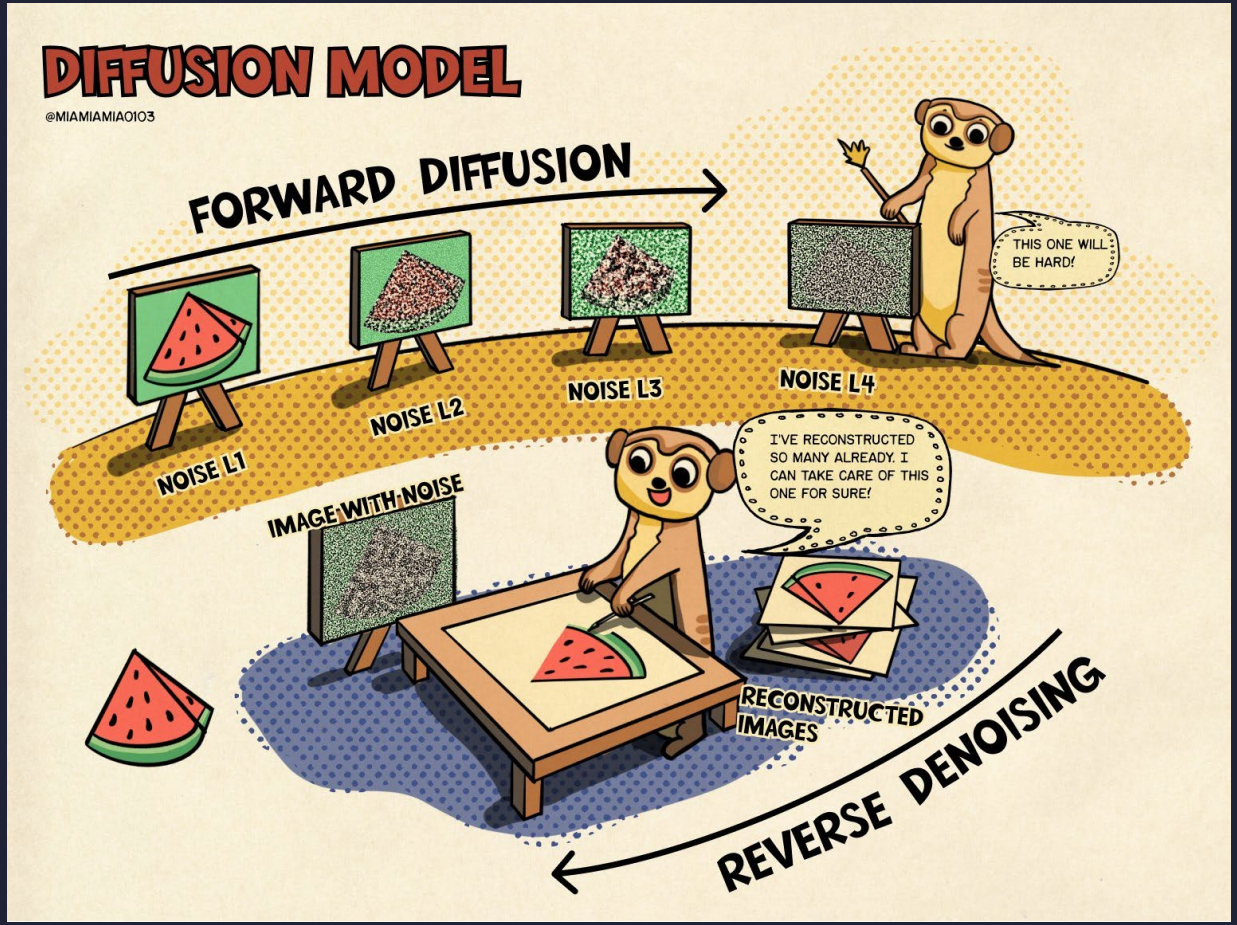
Generative Adversarial Networks

Text-to-image




Stable Diffusion
paradise
cosmic
beach
Text
Understander
(Encoder)
Image
Generator

Stable Diffusion


DIFFUSION MODEL
@MIAMIAMIA0103
FORWARD DIFFUSION
NOISE L1
NOISE L2
NOISE L3
NOISE L4
THIS ONE WILL BE HARD!
IMAGE WITH NOISE
I'VE RECONSTRUCTED SO MANY ALREADY. I CAN TAKE CARE OF THIS ONE FOR SURE!
RECONSTRUCTED IMAGES
REVERSE DENOISING

Generadores de imágenes IA

DALL-E 2

Julio 2022

Midjourney

Noviembre 2022

Stable Difussion

Agosto 2022

Otros

Adobe Firefly, Craiyon, Imagen, Getty...

Théâtre D'opéra Spatial, ganó el primer premio en un concurso de arte digital

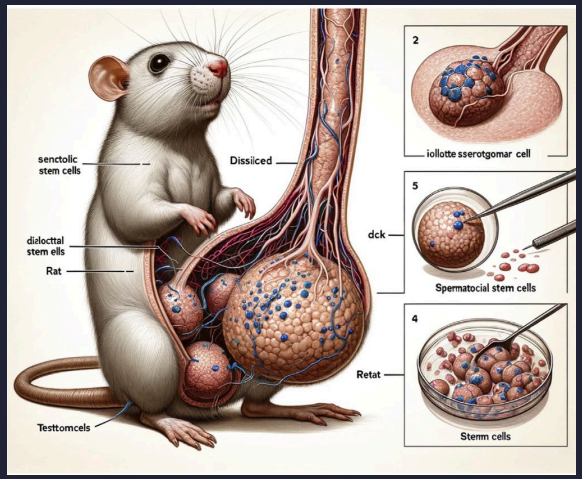


Diagrama anatómicamente incorrecto del aparato reproductor de una rata ilustrado por Midjourney, publicado en un artículo de Frontiers in Cell and Developmental Biology, 2024.

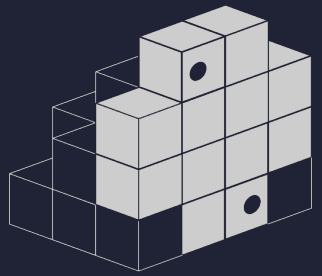
Open Source vs. Software propietario

OPEN SOURCE		SOFTWARE PROPIETARIO	
Sin coste	Soporte	Funcionalidades avanzadas	Coste
Personalización	Interfaz de usuario	Interfaz de usuario	Personalización
Comunidad	Documentación		Dependencia

Código abierto

Repositorios

Librerías



Código abierto

HuggingFace es una compañía que se dedica a desarrollar tecnologías de procesamiento de lenguaje natural (NLP) y a hacerlas accesibles y fáciles de usar para cualquier persona.

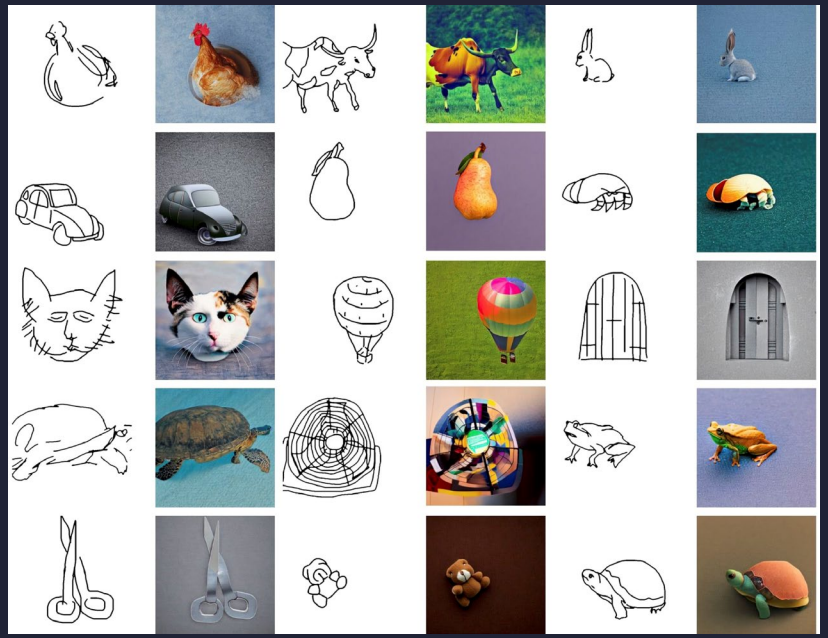
Aplicaciones derivadas de código abierto

Dreamfusion

NVIDIA NeRF

Aplicaciones derivadas de código abierto

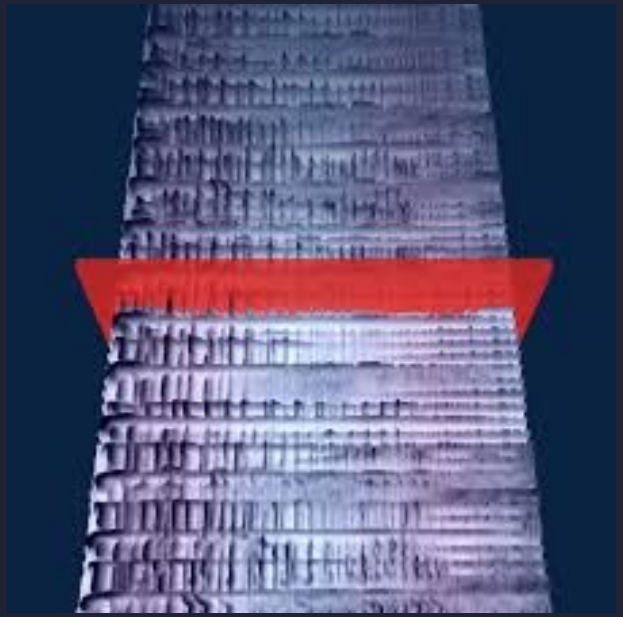
Sketch-Guided Text-to-Image Diffusion Models



Aplicaciones derivadas de código abierto

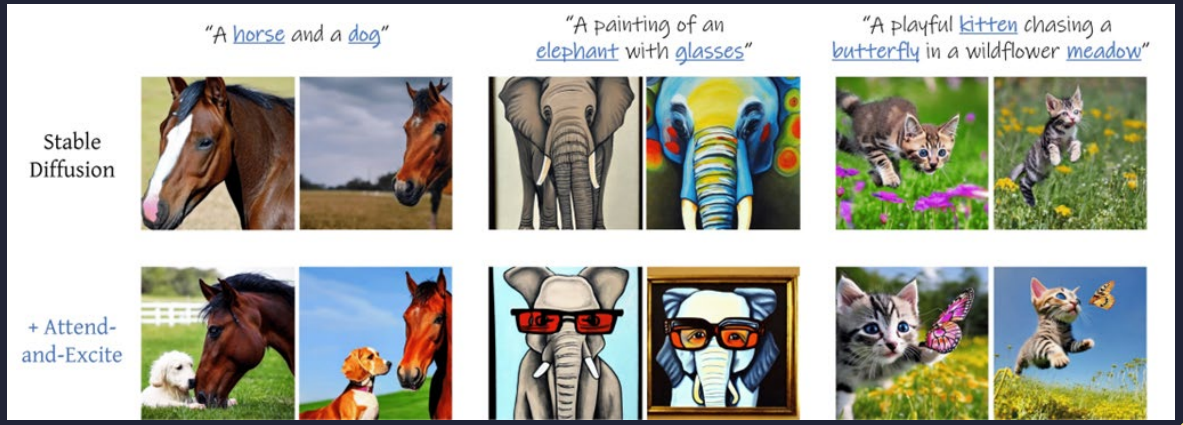
Riffusion

Text/image to music

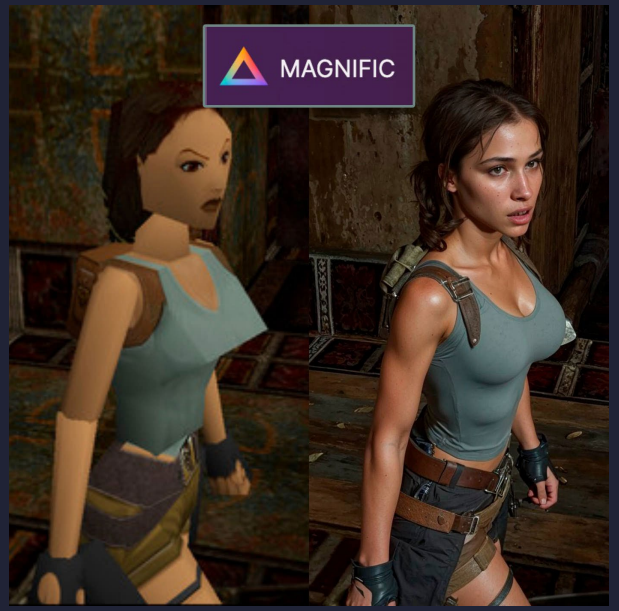


Aplicaciones derivadas de código abierto

Attend and Excite y Controlnet



MagnificAI



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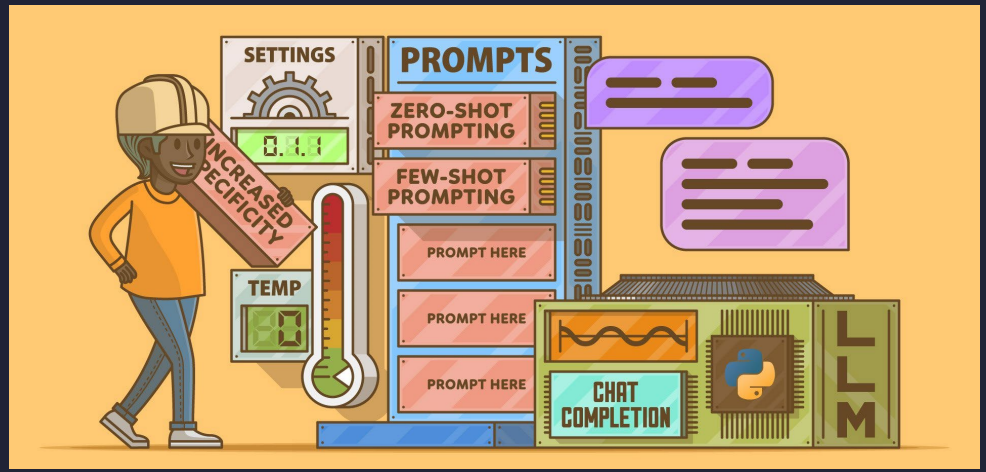
Prompt engineering

El “arte ” de crear buenos prompts



Al igual que los modelos de lenguaje, los outputs de los modelos de imágenes están ampliamente condicionados por el prompt inicial (aunque la tendencia es que cada vez lo serán menos)

“draw an owl in ice and snow”

Stable diffusion 1.5

“product render poster vivid colors divine proportion owl, ice and snow, glowing fog intricate, elegant, highly detailed, digital painting, artstation, concept art, smooth, sharp focus, illustration”

Stable diffusion 1.5

MIDJOURNEY CHEAT SHEET (v5)

	PREFIX defines image medium & style	SCENE defines content	SUFFIX modulates Prefix & Scene	PARAMETERS
/imagine prompt:	studio photography, cinematic close-up shot, renaissance painting, ...	astronaut on a horse,	eerie vibe, colorful earthy color palette kodachrome, retro ...	--ar 16:9 --c 80 --seed 1000 ...

/imagine prompt: `cinematic shot of` `astronaut on a {horse, turtle}` `--c {20,80}`

... four prompts are run:

```
cinematic shot of astronaut on a horse --c 20
cinematic shot of astronaut on a turtle --c 20
cinematic shot of astronaut on a horse --c 80
cinematic shot of astronaut on a turtle --c 80
```

/prefer option set `mycoolpreset` `hyperrealistic --c 40`

now /imagine prompt: astronaut, --mycoolpreset
becomes /imagine prompt: astronaut, hyperrealistic --c 40

/prefer option set `mycoolpreset` ⚠ deletes mycoolpreset

/prefer option list
show custom presets (options)

/prefer remix
toggle remix mode

--ar [WIDTH: HEIGHT] aspect ratio

4:3 16:9 2:1

--c [0-100] chaos (unusual results)

0 50 100

--q [0.25|0.5|1|2]
quality (>1 burns GPU minutes!)

--seed [0-4294967295]
starting point for initial grid

--stop [10-100]
stop at earlier percentage

--tile seamless patterns

--iw [W]
sets image weight to W

--no [X]
gives X a negative weight of -0.5

--niji / --niji 5
anime trained model

--s [0-1000] stylize (artistic interpretation)

0 100 (default) 300

--v [1,2,3,4,5] model version

--repeat [N] repeat prompt N-times

::[weight]
/imagine prompt:

hot dog hot:: dog hot::2 dog

/describe generate 4 prompts from image
/blend merge 2-5 images into new image

/stealth & /public toggle stealth mode
/fast & /relax toggle fast mode

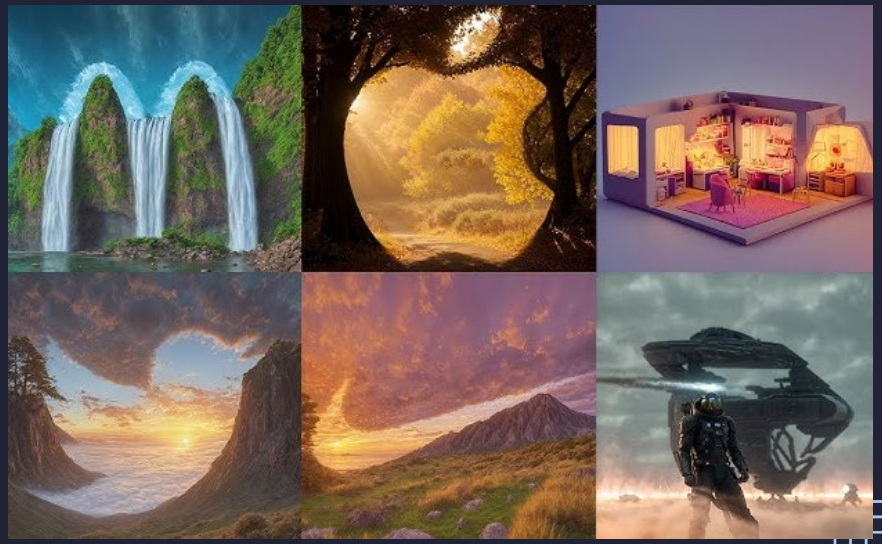
/info show account info & queued jobs
/settings change bot settings
/subscribe change subscription plan

@tristwolff

Image to text

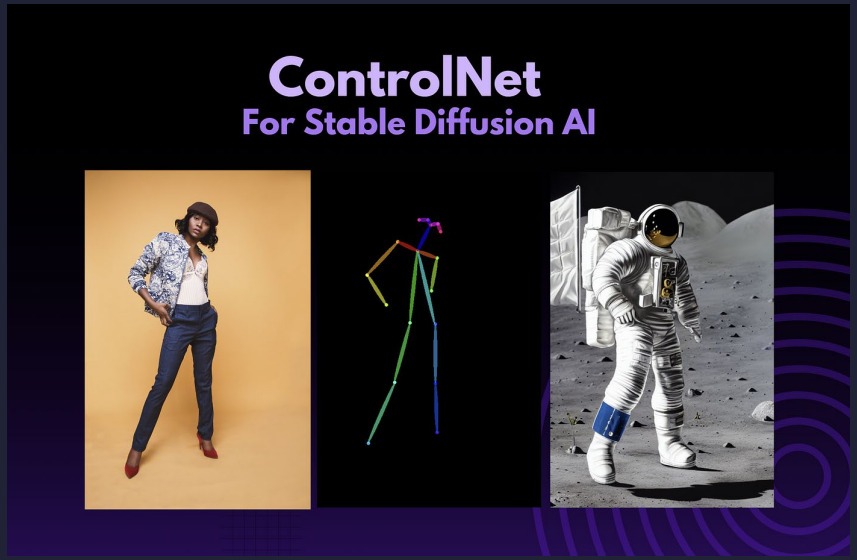
White background, full shot, "Full-body "field of depth" "Centered" from head to foot ice skating Christmas arctic owl, dressed in warm clothes, fantasy, with a happy-go-lucky look ,sharp focus, studio photo, intricate details, highly detailed, Watercolor, watercolour and ink by Cicely Mary Barker

Illusion Diffusion

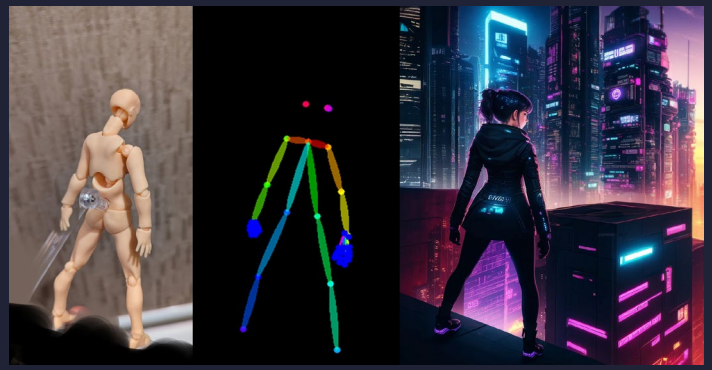


Controlnet

Control en la generación



ControlNet



Ética y consideraciones legales

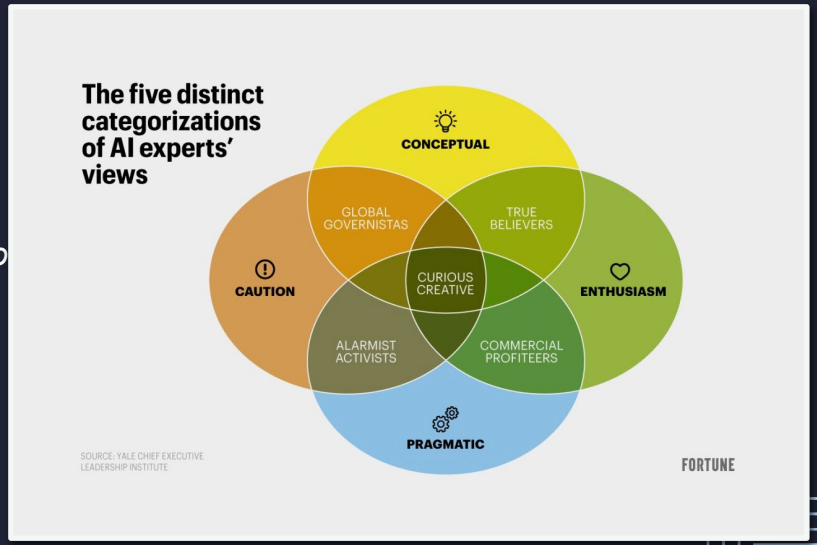
Getty Images lawsuit says Stability AI misused photos to train AI

By **Blake Brittain**

February 6, 2023 6:32 PM GMT+1 · Updated a year ago

5 escuelas de pensamiento sobre la IA generativa

1. **Creyentes**: *La salvación a través de los sistemas*
2. **Especuladores**: *Vender exageraciones sin fundamento*
3. **Creadores**: *Innovación en las fronteras del conocimiento*
4. **Alarmistas**: *Defender normas unilaterales*
5. **Gobernantes**: *Equilibrio mediante directrices*



Creyentes

Vieron el potencial de una tecnología emergente cuando pocos lo hacían, y mucho antes de que entrara en la corriente dominante.

Figuras notables como Yann LeCun y Marc Andreesen son optimistas sobre el futuro de la IA, mientras que otros advierten contra el excesivo optimismo.

One of the 'godfathers' of AI says concerns the technology could pose a threat to humanity are 'preposterously ridiculous'

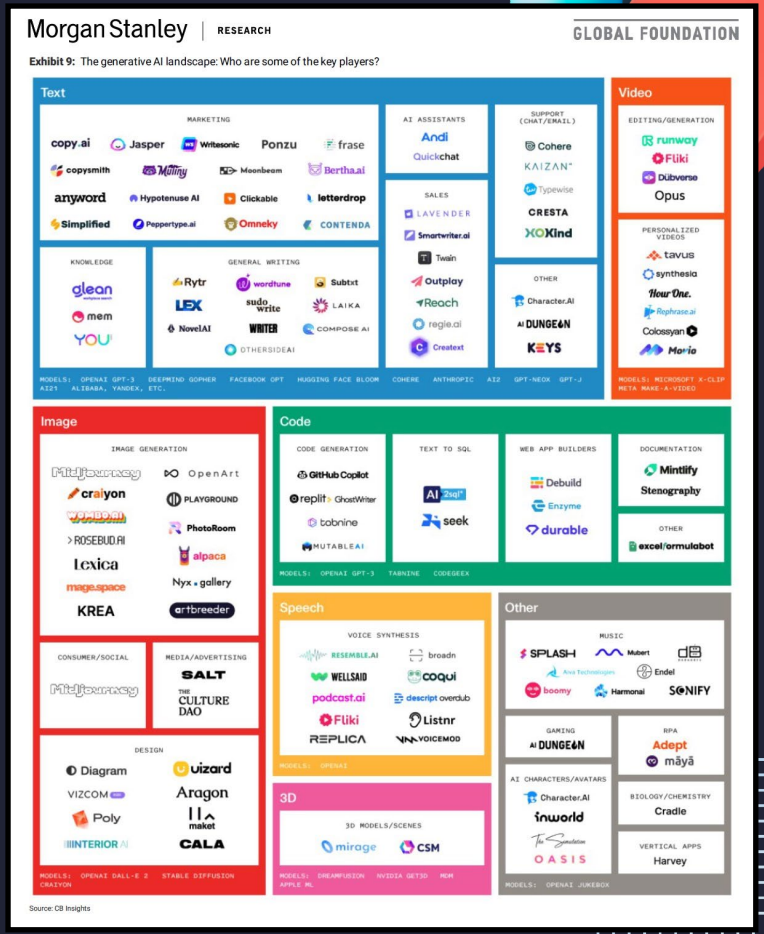
Grace Dean Jun 15, 2023, 12:12 PM CEST

Yann LeCun. Meta Platforms

Especuladores

- Muchas nuevas empresas de inteligencia artificial carecen de productos sólidos o de una dirección clara y son dirigidas por fundadores con limitado conocimiento real de la tecnología.

- Aunque algunas podrían ser fundamentales para el futuro desarrollo de la IA, la mayoría probablemente no lo logrará.



Creadores

- Actualmente, la inteligencia artificial está avanzando gracias a mejoras en datos, modelos, algoritmos y hardware. Sin embargo, hay preocupaciones de que un enfoque excesivamente positivo hacia la IA puede ser tan ingenuo como el enfoque previo de Robert Oppenheimer antes de la bomba atómica.

- “When you see something that is technically sweet, you go ahead, and do it and you argue about what to do about it only after you have had your technical success. That is the way it was with the atomic bomb” *In the Matter of J. Robert Oppenheimer, USAEC Transcript of Hearing Before Personnel Security Board (1954)*

Alarmistas

Figuras como Geoffrey Hinton y Roger McNamee destacan los riesgos de la IA, mientras que otros, como el CEO de OpenAI, Sam Altman, advierten sobre la IA convirtiéndose en una amenaza al nivel de la guerra nuclear.

A veces se puede cuestionar la motivación de estos alarmistas, ya que pueden beneficiarse de la atención que se da a sus puntos de vista.

TECH · A.I.

Sam Altman and other technologists warn that A.I. poses a 'risk of extinction' on par with pandemics and nuclear warfare

BY TRISTAN BOVE

May 30, 2023 at 4:32 PM GMT+2

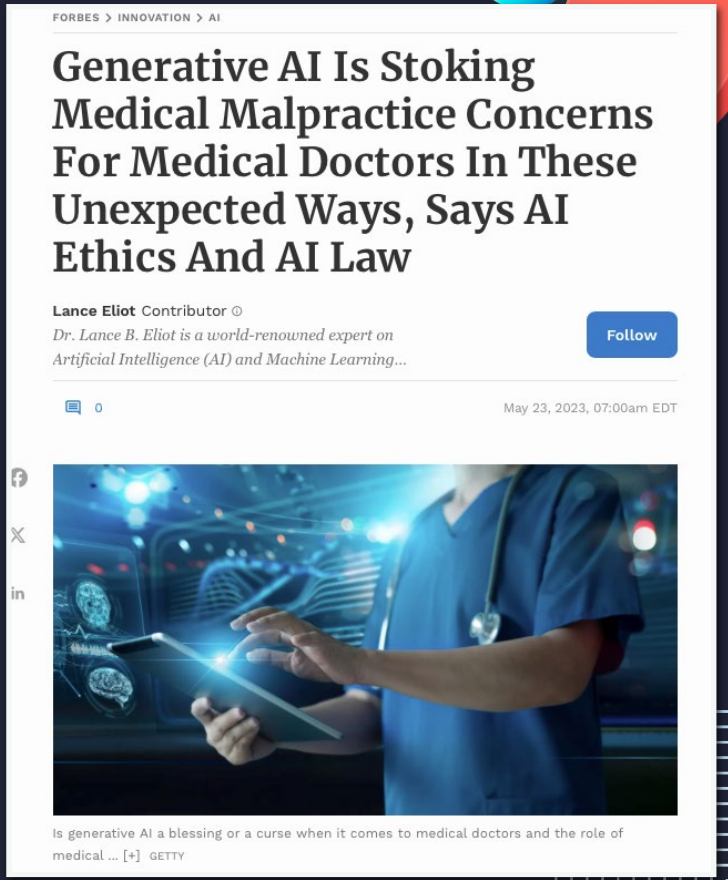
OpenAI CEO Sam Altman is warning about A.I.'s existential risks.

WIN MCNAMEE—GETTY IMAGES

Gobernantes

Muchos líderes legislativos, economistas e influenciadores creen en la necesidad de directrices para prevenir daños sociales a gran escala.

Algunos ven los riesgos de la IA en términos de desplazamiento laboral y supresión salarial, otros temen que la dependencia de la IA pueda hacer que la gente confíe demasiado, incluso en situaciones potencialmente dañinas.



FORBES > INNOVATION > AI

Generative AI Is Stoking Medical Malpractice Concerns For Medical Doctors In These Unexpected Ways, Says AI Ethics And AI Law

Lance Eliot Contributor

Dr. Lance B. Eliot is a world-renowned expert on Artificial Intelligence (AI) and Machine Learning...

Follow

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May 23, 2023, 07:00am EDT

Is generative AI a blessing or a curse when it comes to medical doctors and the role of medical ... [+] GETTY

Pause Giant AI Experiments

The “Pause Giant AI Experiments: An Open Letter published on March 22, 2023, has 27,565 signatures including many highly regarded computer scientists working directly in the field of AI.[5] The letter quote ‘the widely-endorsed’ Asilomar AI Principles:

> “Advanced AI could represent a profound change in the history of life on Earth and should be planned for and managed with commensurate care and resources.”[6]

Derechos de autor y propiedad

¿De quién es el contenido generado por una IA?

Partes involucradas en la autoría

Las partes que participan en la creación de estos resultados son:

1. La persona que escribió la consulta (el "prompt")

2. Los artistas/escritores cuyas obras se han empleado para entrenar el modelo

3. El creador de la IA usada para generar el contenido
('Attention Is All You Need' by Ashish Vaswani et al., Google Brain team, etc.)

4. La compañía/organización que aloja la implementación del modelo generación (Microsoft Bing-OpenAI-ChatGPT, Google-Bard, Meta-LLaMa etc.)

Copyright

United States Copyright Office

Library of Congress • 101 Independence Avenue SE • Washington DC 20559-6000 • www.copyright.gov

February 21, 2023

Van Lindberg
Taylor English Duma LLP
21750 Hardy Oak Boulevard #102
San Antonio, TX 78258

Previous Correspondence ID: 1-5GB561K

Re: Zarya of the Dawn (Registration # VAu001480196)

copyright. However, as discussed below, the images in the Work that were generated by the Midjourney technology are not the product of human authorship. Because the current registration for the Work does not disclaim its Midjourney-generated content, we intend to cancel the original certificate issued to Ms. Kashtanova and issue a new one covering only the expressive material that she created.

Opinion: The Copyright Office is making a mistake on AI-generated art

Timothy B. Lee, Ars Technica, 22/9/2023

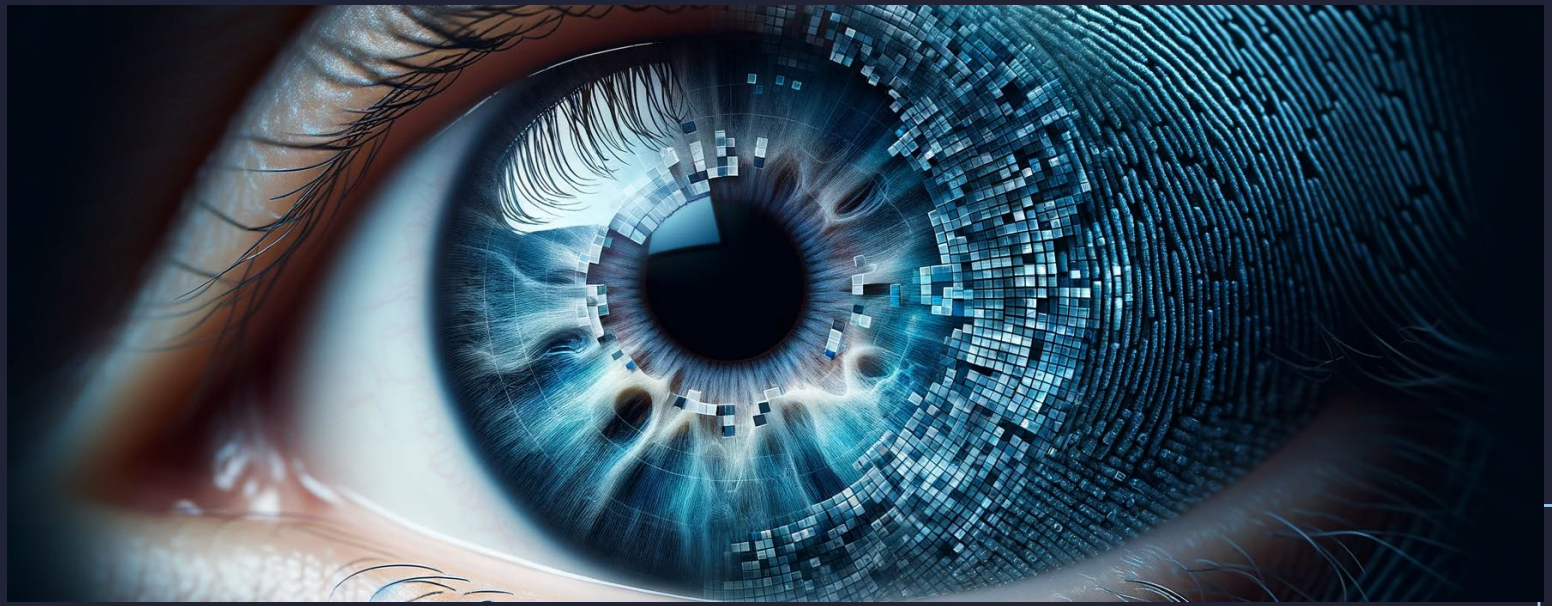
En 1880, se discutió si la ley de copyright debería cubrir la fotografía (porque no era un proceso creativo, sino mecánico)

Napoleon Sarony demandó a una compañía que usó sin permiso una de sus fotos de Oscar Wilde

El Tribunal Supremo decidió que las fotografías "ordinarias" no estaban protegidas pero que Sarony eligió la postura, las ropas, la escena, la iluminación...

Privacidad y Protección de Datos

¿Qué garantías tenemos de que los datos que le proporcionemos a la IA no sean difundidos?



Protección de datos en Europa

EL PAÍS Tecnología SUSCRÍBETE INICIAR SESIÓN

INTELIGENCIA ARTIFICIAL >

Italia bloquea el uso de ChatGPT por incumplir la normativa de protección de datos

El regulador también critica que la herramienta de inteligencia artificial carece de filtros para verificar la edad de los menores

LORENA PACHO

Roma - 31 MAR 2023 - 17:37 CEST

El Garante italiano para la Protección de Datos Personales, una autoridad administrativa independiente que vela por la protección de datos de los usuarios y consumidores, considera que la plataforma recoge datos de los usuarios de manera ilegal y ha abierto una investigación para esclarecer el funcionamiento preciso de esta herramienta y determinar si ha cometido una infracción.

La autoridad italiana alega, basándose en “las comprobaciones efectuadas” que la información facilitada por ChatGPT “no siempre se corresponde con los datos reales”, lo que según el garante “da lugar a un tratamiento inexacto de los datos personales”.

Por último, Italia lamenta “la ausencia de todo tipo de filtro” en la verificación de la edad de sus usuarios, a pesar de que el servicio esté dirigido a mayores de 13 años. Y reprueba “la exposición de los menores a respuestas totalmente inadecuadas con respecto a su nivel de desarrollo y autoconocimiento”.

Retención de datos

Addressing criticism, OpenAI will no longer use customer data to train its models by default

Kyle Wiggers

@kyle_l_wiggers / 7:00 PM GMT+1 • March 1, 2023

Comment

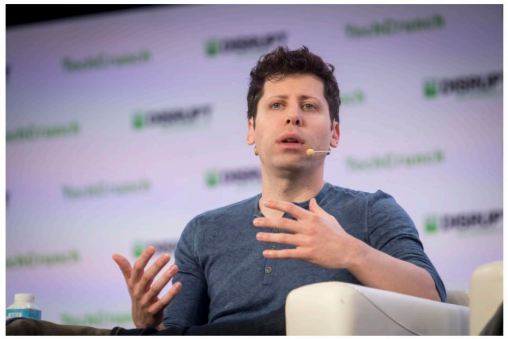
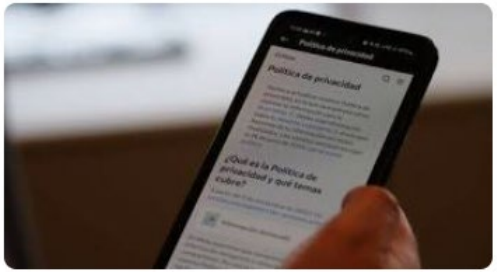


Image Credits: David Paul Morris/Bloomberg / Getty Images

As the ChatGPT and Whisper APIs launch this morning, OpenAI is changing the terms of its API developer policy, aiming to address developer — and user — criticism.

Starting today, OpenAI says that it won't use any data submitted through its API for "service improvements," including AI model training, unless a customer or organization opts in. In addition, the company is implementing a 30-day data retention policy for API users with options for stricter retention "depending on user needs," and simplifying its terms and data ownership to make it clear that users own the input and output of the models.

Oposición a uso de datos



La Voz de Galicia

Meta usará tus fotos y vídeos en Instagram para mejorar su IA: así puedes evitarlo

ABC ABC

Facebook, Instagram y WhatsApp utilizarán fotos y datos de sus usuarios par…

E Expansión

Meta quiere usar tus fotos publicadas en Instagram y Facebook para alimentar …

Derecho al olvido

Google Research Philosophy Research Areas Publications

BLOG ›

Announcing the first Machine Unlearning Challenge

THURSDAY, JUNE 29, 2023

Posted by Fabian Pedregosa and Eleni Triantafillou, Research Scientists, Google

Deep learning has recently driven tremendous progress in a wide array of applications, ranging from realistic image generation and impressive retrieval systems to language models that can hold human-like conversations. While this progress is very exciting, the widespread use of deep neural network models requires caution: as guided by Google's AI Principles, we seek to develop AI technologies responsibly by understanding and mitigating potential risks, such as the propagation and amplification of unfair biases and protecting user privacy.

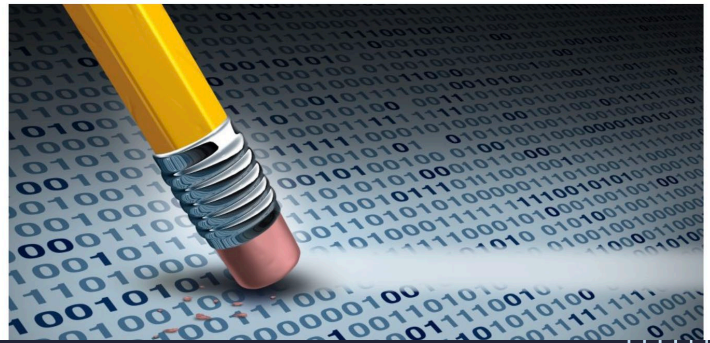
digwatch Subscribe

Home | Updates | AI's right to forget – Machine unlearning

22 Aug 2023

AI's right to forget – Machine unlearning

Machine unlearning is a new field in AI that addresses the challenge of forgetting or removing outdated, incorrect, or private data from machine learning models. With the increasing need for models to 'forget' information for privacy, security, and ethical reasons, the concept of machine unlearning has become crucial. Progress has been made in developing unlearning algorithms, but challenges such as efficiency, standardization, privacy, and scalability remain.



Demandas judiciales por uso indebido

REUTERS

World Business Markets Sustainability More Register

My View Following Saved

Technology

Australian mayor readies world's first defamation lawsuit over ChatGPT content

By Byron Kaye

April 5, 2023 8:52 PM GMT+2 · Updated 5 months ago

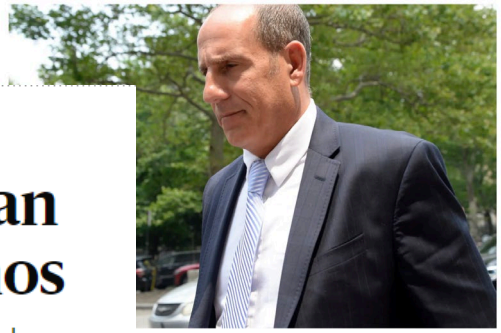
The New York Times

A.I. and Chatbots › How Schools Can Survive A.I. When Will the U.S. Regulate A.I.? Smart Ways to Use Chatbo

The ChatGPT Lawyer Explains Himself

In a cringe-inducing court hearing, a lawyer who relied on A.I. to craft a motion full of made-up case law said he "did not comprehend" that the chat bot could lead him astray.

Share full article 267



judge considering sanctions that the episode had been "deeply

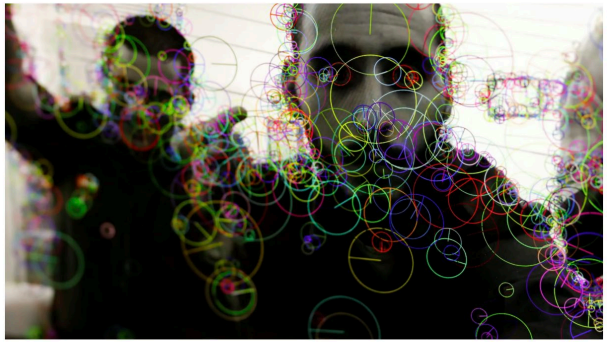
Siegel for The New York Times

Los identificados por los 'deepfakes' sexuales de Almendralejo, que acumulan ya 22 denuncias, tienen entre 12 y 14 años

Algunos de los presuntos autores de los hechos tendrían "los 14 años cumplidos", en cuyo caso se les aplicaría la ley penal del menor, según ha informado el jefe del Grupo de Protección del Menor de la Unidad Central de Ciberdelincuencia

Así es la primera ley IA que propone Sumar: la publicidad con IA generativa será engañosa y cárcel para quienes hagan deepfakes en campaña

Alberto R. Aguiar
16 oct. 2023 7:40h.



Dos militares prueban un 'script' de reconocimiento facial durante un curso de ciberseguridad. REUTERS/Amir Cohen

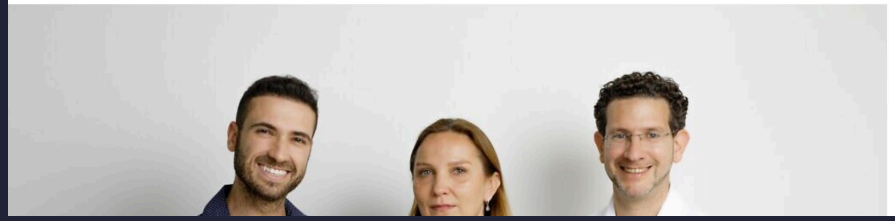
- **Ya se conocen todos los detalles de la proposición de ley de Sumar sobre IA y deepfakes que reforma incluso el Código Penal.**

TERRORISTS TRY TO SWAY OPINION WITH EVENTS THAT DIDN'T HAPPEN

These Israelis are fighting Hamas on the war's emerging 'deepfake' cyberfront

Generated by artificial intelligence, false footage of the Israel-Gaza war has been inundating media outlets around the world since the October 7 Hamas massacres

By MATT LEBOVIC | 18 October 2023, 3:55 pm | 0



Regulación europea

AI Act

The AI Act is the first-ever legal framework on AI, which addresses the risks of AI and positions Europe to play a leading role globally.

The AI Act aims to provide AI developers and deployers with clear requirements and obligations regarding specific uses of AI. At the same time, the regulation seeks to reduce administrative and financial burdens for business, in particular small and medium-sized enterprises (SMEs).

The AI Act is part of a wider package of policy measures to support the development of trustworthy AI, which also includes the AI Innovation Package and the Coordinated Plan on AI. Together, these measures will guarantee the safety and fundamental rights of people and businesses when it comes to AI. They will also strengthen uptake, investment and innovation in AI across the EU.

© gorodenkoff - iStock Getty Images Plus

https://x.com/antor/status/1658024729192562689

Contenido del curso

01

- Introducción a las IAs generativas
- Ejemplos de aplicaciones populares
- Primeras generaciones

02

- Procesamiento de imágenes
- Cómo funcionan las IAs generativas
- Herramientas open source vs productos propietarios
- Casos de uso

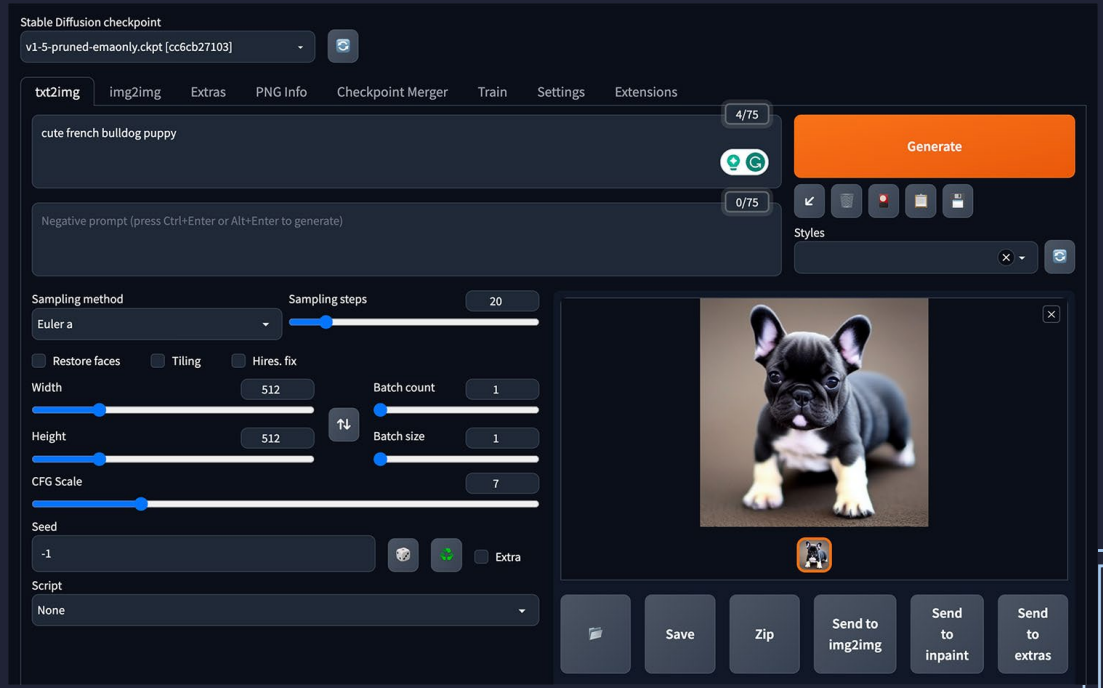
03

- Prompt engineering
- Modelos image to text
- Transferencia de estilos
- Ética y Consideraciones Legales

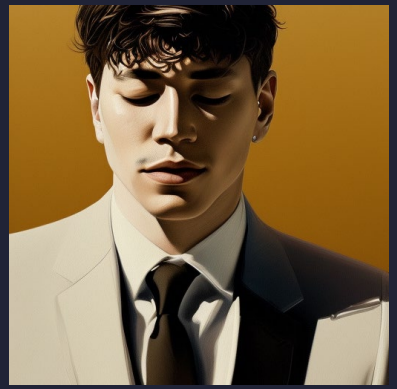
04

- Stable diffusion
- Crea tu propio avatar
- Perspectivas futuras

Stable Diffusion

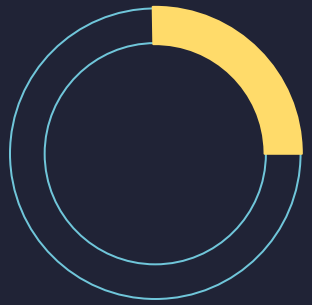


Avatares personalizados

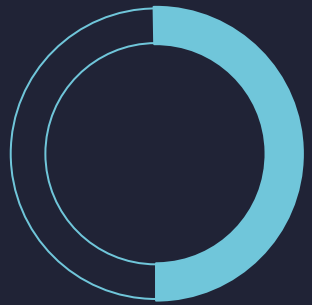


Perspectivas futuras

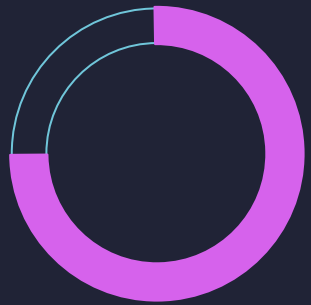
Multimodalidad



Texto



Imagen

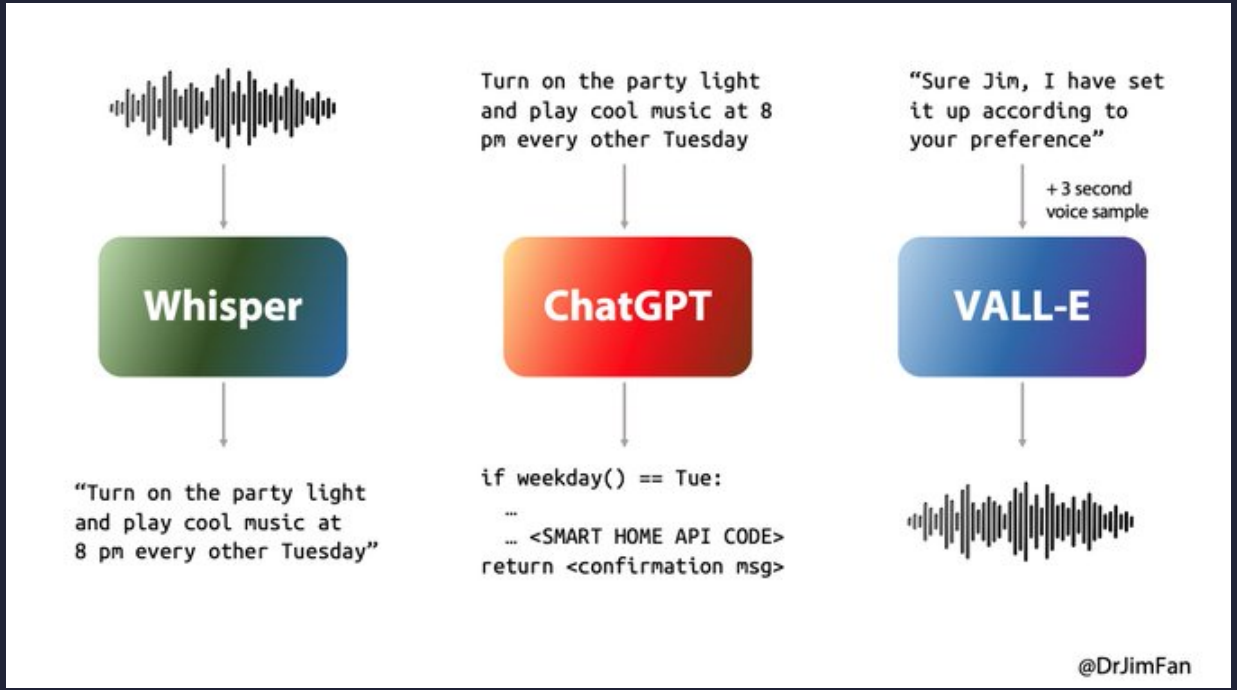


Audio

Multimodalidad

El sarcasmo en memes, por ejemplo, es difícil de captar con modelos unimodales porque son resultado de la combinación de imagen y texto, y por tanto no se puede identificar analizando cada elemento por separado

Multimodalidad



Multimodalidad

MiniGPT-4

Modelo de código abierto que realiza tareas complejas de lenguaje visual

VLog: Video as a Long Document

A partir de un vídeo largo, se convierte a un documento que contiene información visual y sonora, que es enviada a un modelo de lenguaje para chatear sobre el vídeo.

Ask anything

Similar al anterior, permite interactuar con un chatbot acerca de un vídeo dado

AutoGPT

En lugar de que un usuario vaya introduciendo las peticiones en forma de *prompts*, es el propio modelo el que se autoalimenta basándose en la petición inicial.

BabyAGI

Sistema de gestión de tareas basado en IA. El sistema utiliza las API de OpenAI y Pinecone para crear, priorizar y ejecutar tareas. La idea principal de este sistema crear tareas basándose en el resultado de tareas anteriores y en un objetivo predefinido.

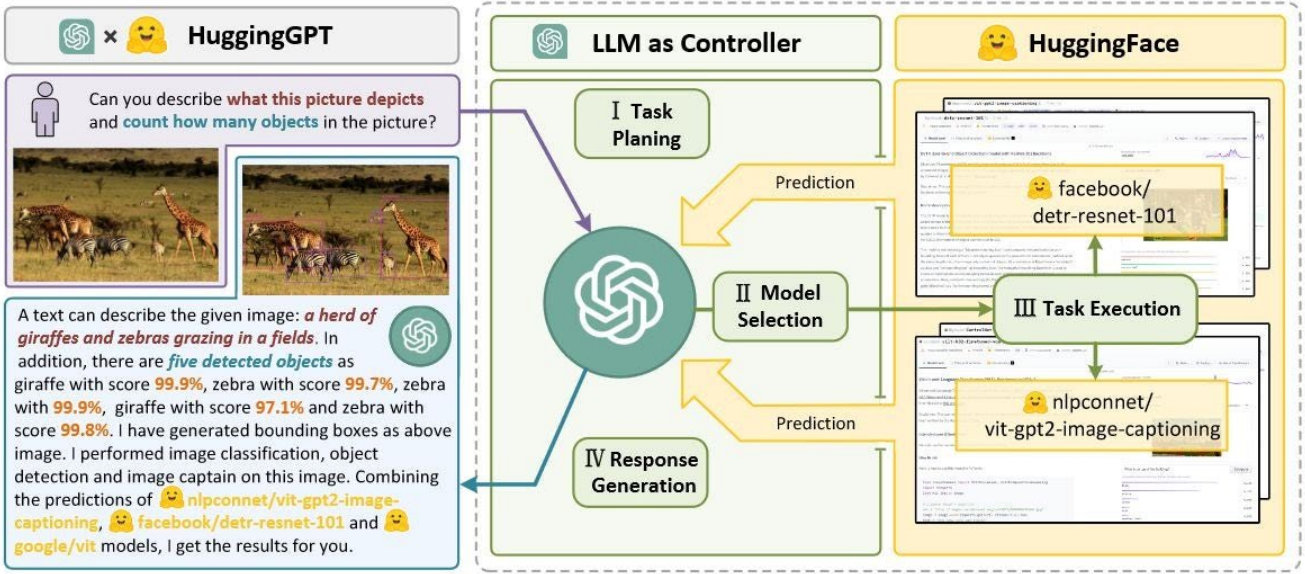


Figure 1: *Language serves as an interface for LLMs (e.g., ChatGPT) to connect numerous AI models (e.g., those in HuggingFace) for solving complicated AI tasks.* In this concept, an LLM acts as a controller, managing and organizing the cooperation of expert models. The LLM first plans a list of tasks based on the user request and then assigns expert models to each task. After the experts execute the tasks, the LLM collects the results and responds to the user.

CharacterFactory

"This is the story about Jenny. Jenny lived in a poor family when she was a child. So, she studied hard after going to school. At the age of 25, she found a job as a programmer. Now, she is successful in her career, enjoys coffee, and feels satisfied with her life in New York."

Scene 1 Scene 2 Scene 3 Scene 4

Generación de video

PIKA

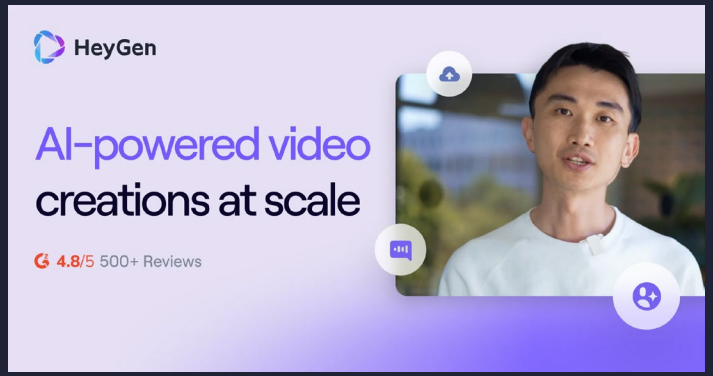
Sora

Genie

Veo

Avateres artificiales

HeyGen



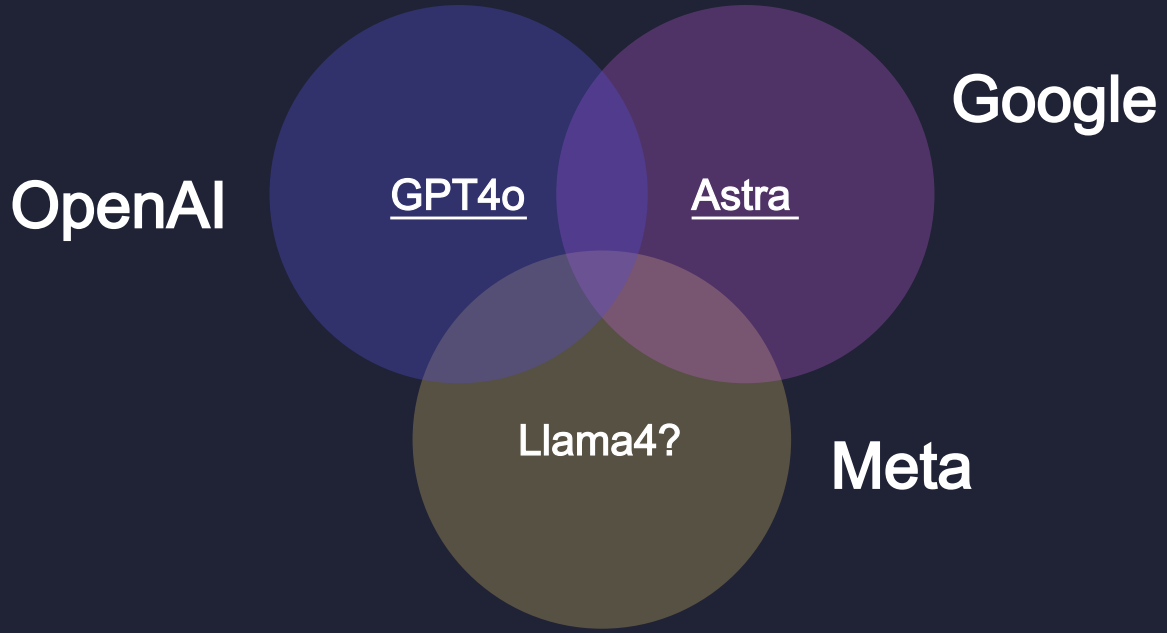
Digen

Generación de música

Suno

Udio

Nuevos asistentes



Gracias!

costanahuel@uniovi.es
costanahuel.com