

GENERATIVE KI – KÜNSTLICHE STIMMEN, MUSIK, BILDER & VIDEOS



Marten Graebner
August 2023

Disclaimer: All views are my own



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und sind **nicht** die meines Arbeitgebers



KÜNSTLICHE STIMMEN



Text-to-Speech und Voice Cloning?

Text-to-Speech (TTS) kann Text in gesprochene Sprache umwandeln. Das wurde anfänglich für Bandansagen bei Hotlines verwendet. Mittlerweile wird TTS auch für Hörbücher, Filme, Computerspiele, Sprachassistenten und vieles mehr verwendet.

Voice Cloning kann die Stimme einer Person synthetisch reproduzieren – mittlerweile täuschend echt.

Wie funktioniert es?

Ein **mehrschichtiger Prozess** bestehend aus der Textanalyse, linguistischen Analyse, phonetischen Umsetzung, akustischen Modellierung und Klangsynthese. Wörter werden in sogenannte **Phoneme** runtergebrochen, das sind die kleinsten bedeutungsunterscheidenden Einheiten in einer Sprache.

Welche Anbieter gibt es?

Mittlerweile gibt es sehr viele Apps und Anbieter. Unter anderem einfach zugänglich sind **Elevenlabs, GoogleTTS, audioread.com, murf.ai, lovo.ai** und **play.ht** (beispielhafte Anbieter; nicht als Empfehlung zu deuten).

Wie gut ist es?

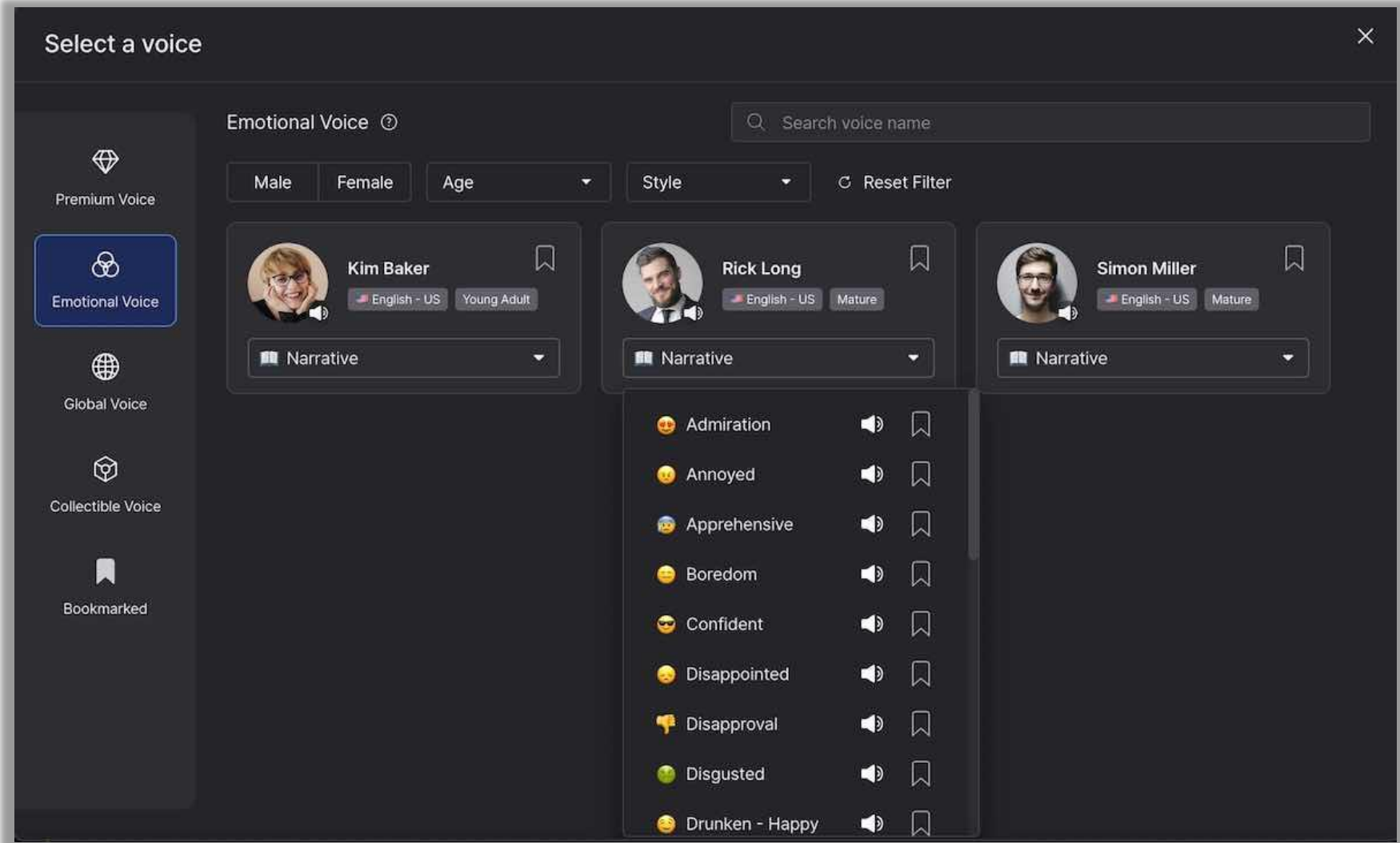
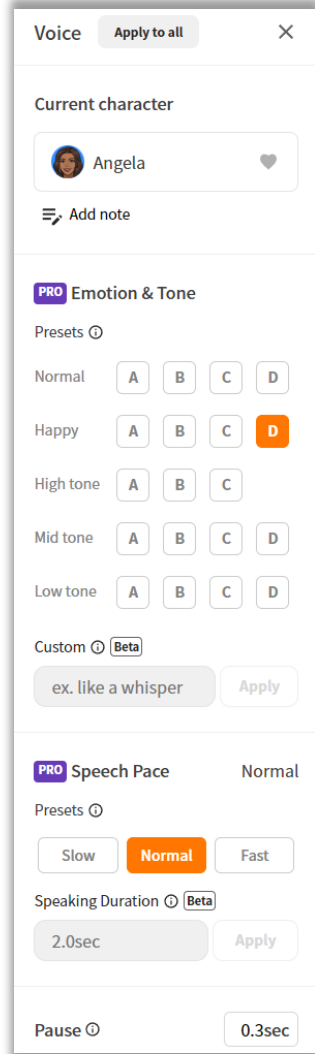


8 Monate altes Video(!)

Seitdem sind Videos mit gefälschten Stimmen auf YouTube **verboten**.

Auf alternativen Plattformen kann man mehr Beispiele von geklonten Stimmen finden.

Emotionen? Bald kein Problem mehr!



Was kann passieren?

AI clones teen girl's voice in \$1M kidnapping scam: 'I've got your daughter'

By Ben Cost

April 12, 2023 | 10:31am | Updated



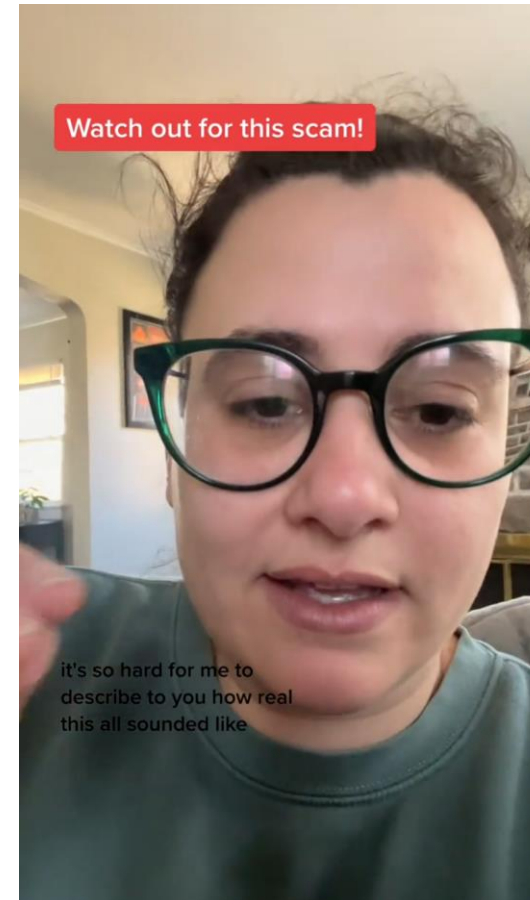
An Arizona mom claims that scammers used AI to clone her daughter's voice so they could demand a \$1 million ransom from her as part of a terrifying new voice scheme.

"I never doubted for one second it was her," distraught mother Jennifer DeStefano told WKYT while recalling the bone-chilling incident. "That's the freaky part that really got me to my core."

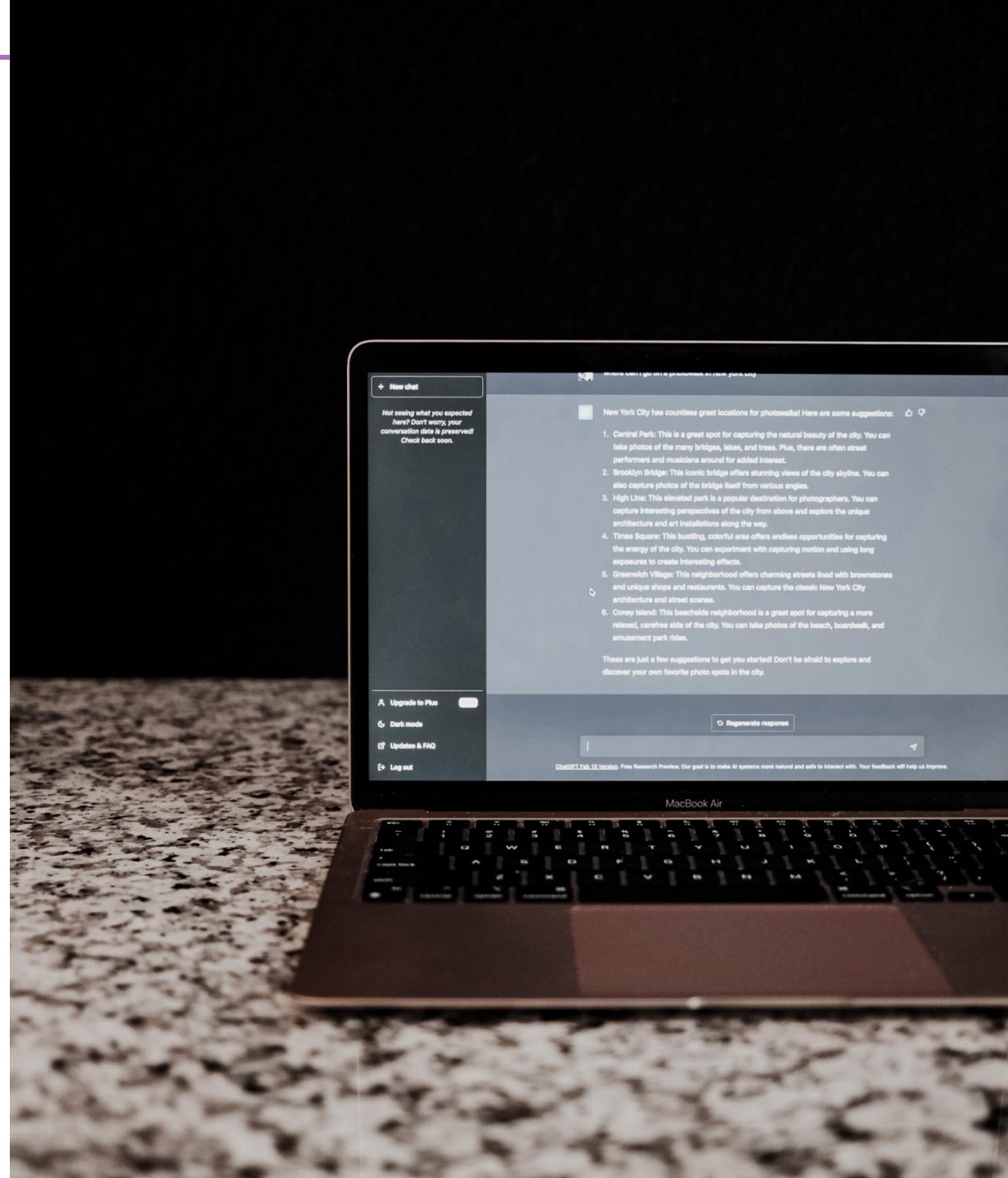
...

The Scottsdale, Ariz., resident recounted how she received a call from an unfamiliar phone number, which she almost let go to voicemail. Then DeStefano remembered that her 15-year-old daughter, Brie, was on a ski trip, so she answered the call to make sure nothing was amiss.

That simple decision would turn her entire life upside down: "I pick up the phone, and I hear my daughter's voice, and it says, 'Mom!' and she's sobbing," the petrified parent described. "I said, 'What happened?' And she said, 'Mom, I messed up,' and she's sobbing and crying."



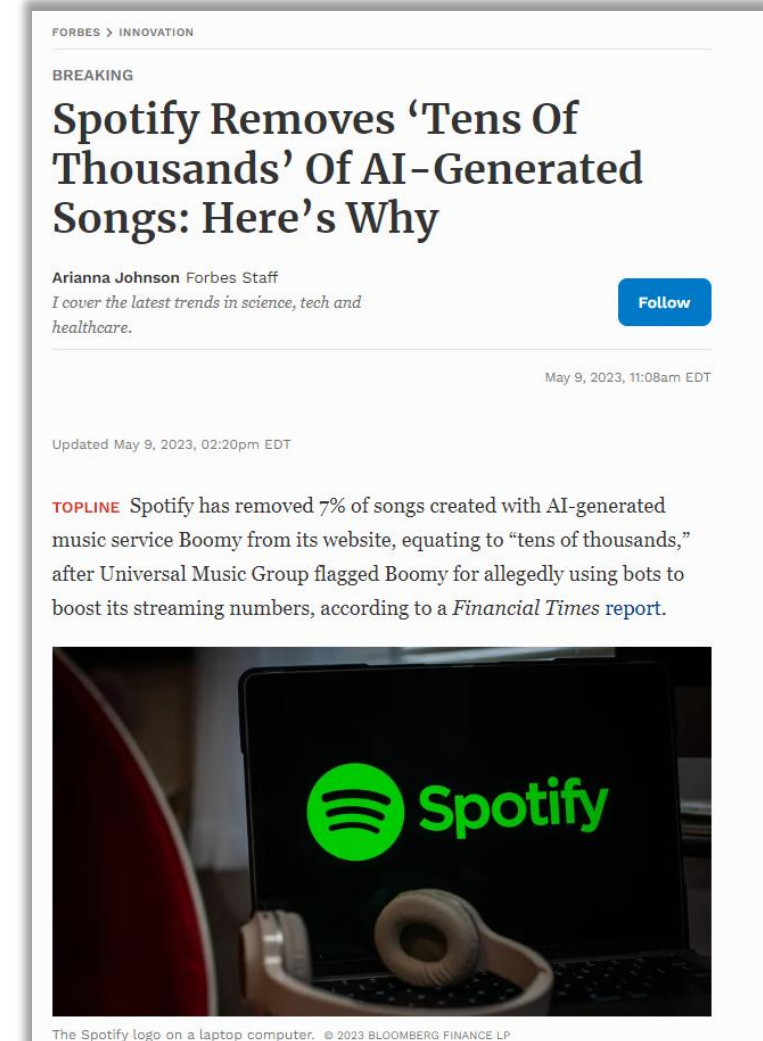
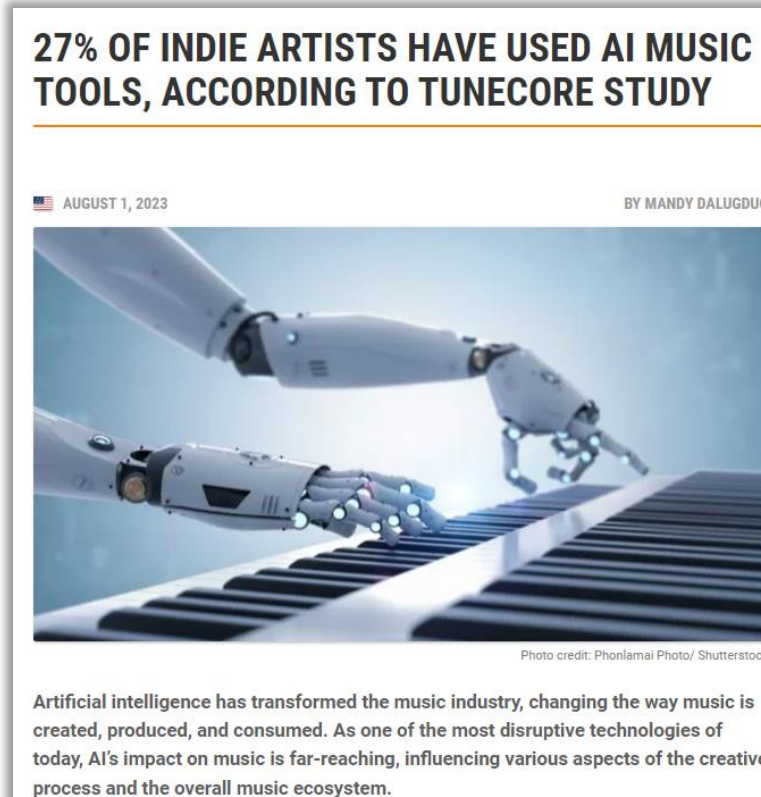
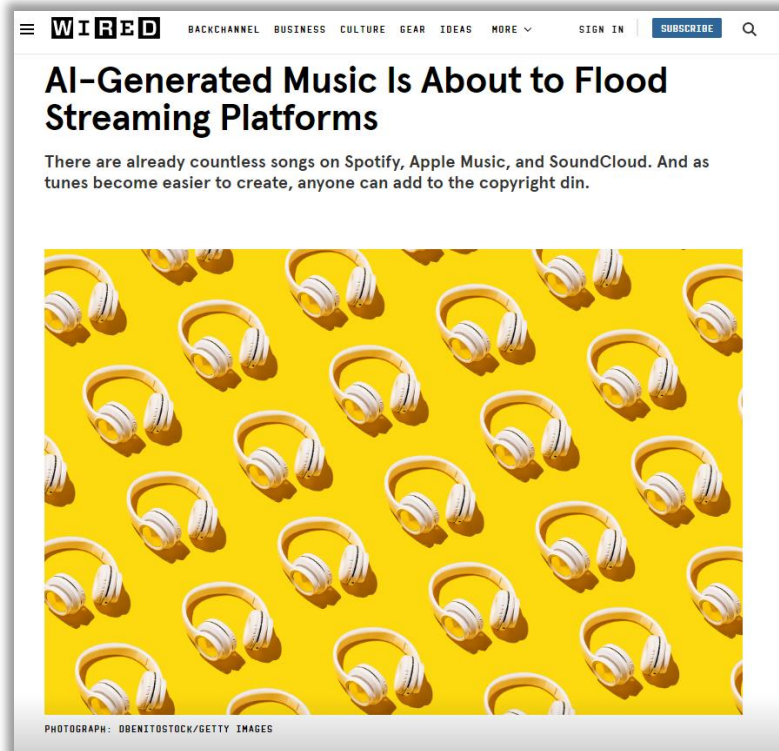
Demo Time 😊!



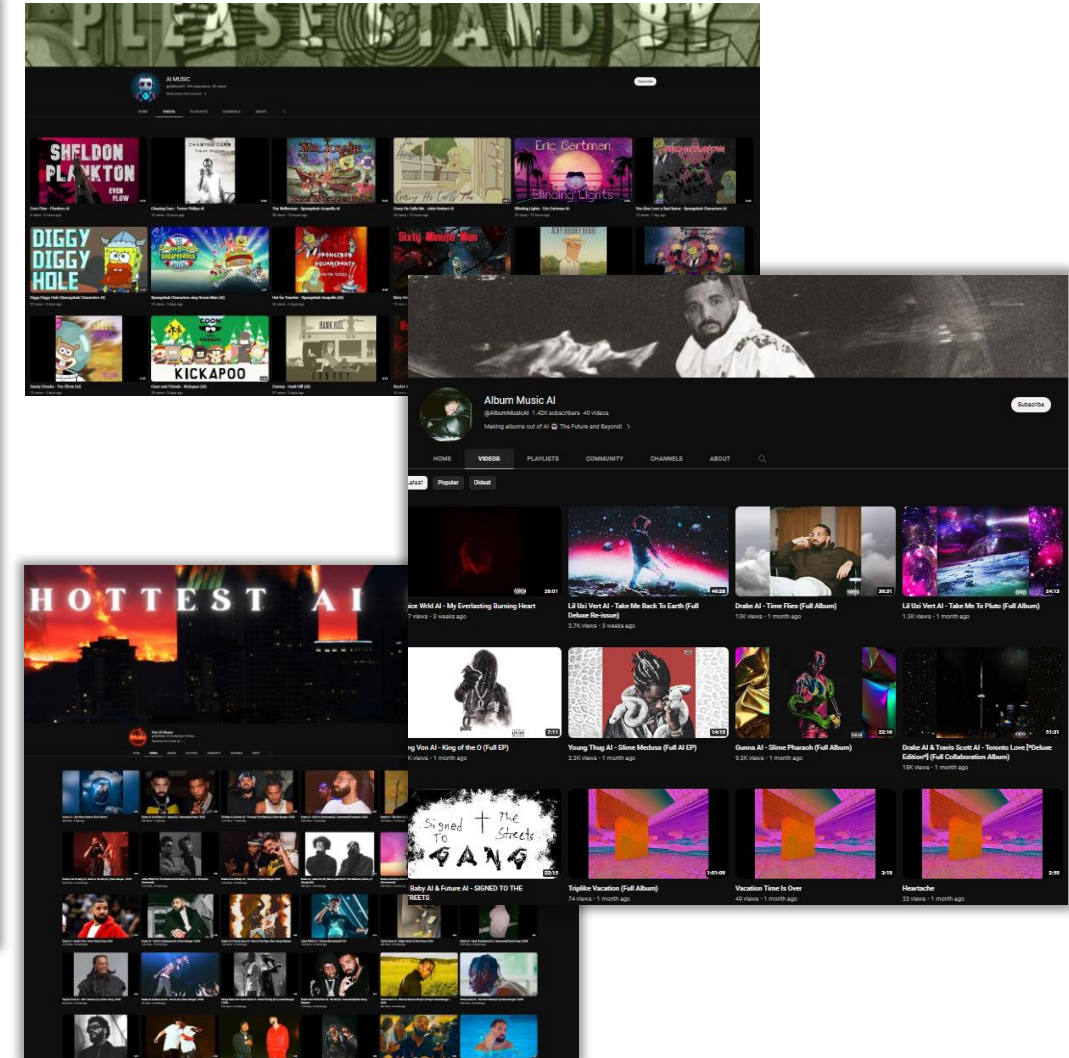
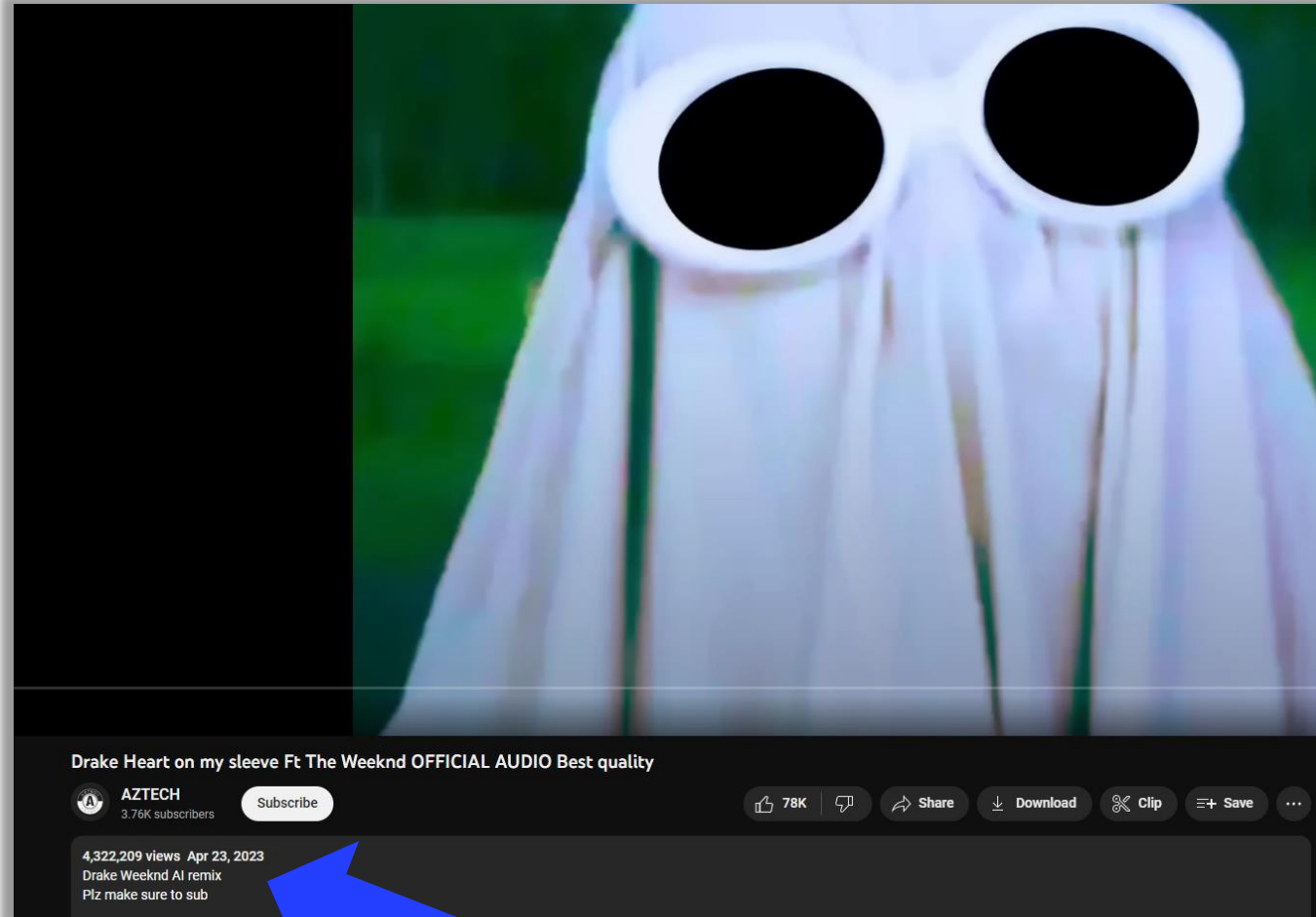


KÜNSTLICHE MUSIK

KI für Musik wird bereits viel verwendet ...



YouTube als Quelle (noch; IP-Klagen drohen)



Anwälte freuen sich ...

VICE Video TV News Tech Rec Room

Record Label Wipes AI-Generated Eminem Rapping About Cats From the Internet

A Youtuber was given a copyright strike for a ChatGPT-generated rap about cats using an AI-generated version of Eminem's voice.

By Samantha Cole

April 4, 2023, 5:39pm

Listen to this article



GETTY IMAGES

CNN BUSINESS Markets Tech Media Calculators Videos

Markets →		
DOW	35,473.13	1.16% ▲
S&P 500	4,518.44	0.90% ▲
NASDAQ	13,994.40	0.61% ▲

Fear & Greed Index →

Green is driving the US market

69

Universal Music Group calls AI music a 'fraud,' wants it banned from streaming platforms. Experts say it's not that easy

By Vanessa Yurkevich, CNN
Published 7:42 AM EDT, Tue April 18, 2023



AI Weiwei on art, activism and artificial intelligence

THE BYTE.

NO MORE ME, NICE GUY

DRAKE'S LABEL IS STILL ABSOLUTELY FURIOUS ABOUT THAT AI-GENERATED SONG

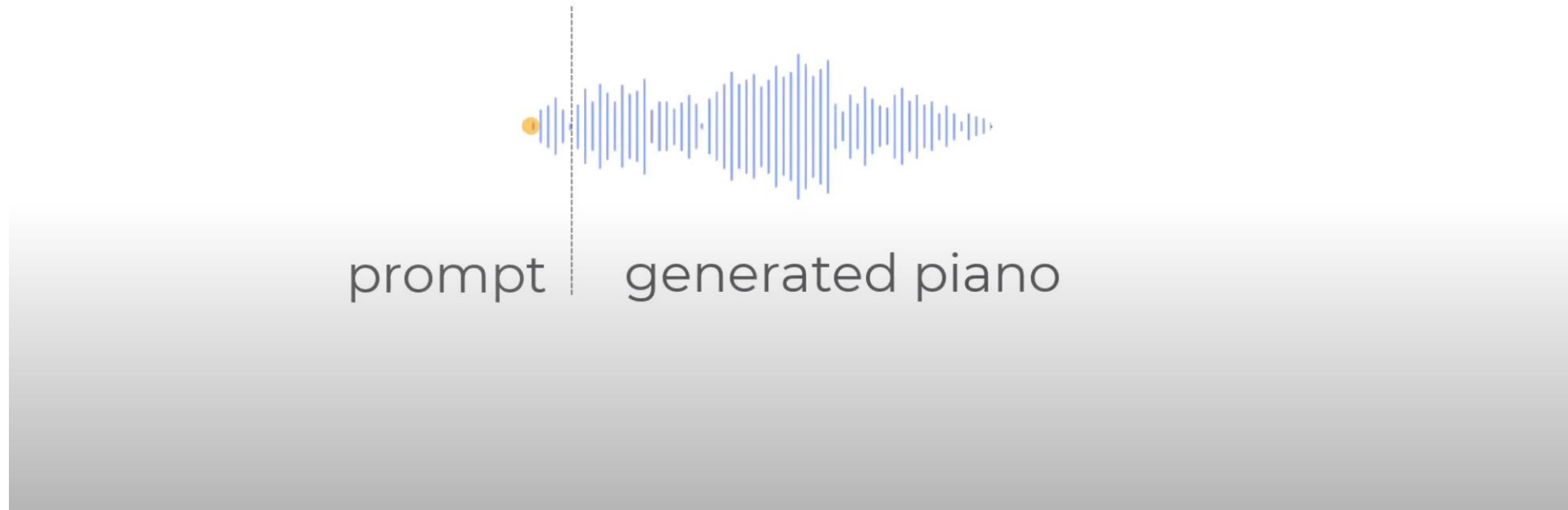
IT'S NOT GIVING UP ITS CRUSADE AGAINST AI MUSIC.

GETTY / FUTURISM

Record label behemoth Universal Music Group (UMG) is not happy about a song that used AI-generated vocals to imitate Aubrey "Drake" Graham and Abel Makkonen "the Weeknd" Tesfaye — some of its biggest artists.

UMG has forced the song called "Heart on My Sleeve" to be removed from Spotify and TikTok, and has since sent letters to Spotify, Apple Music, and other music streamers asking that they block AI tools from training their models on its artists' melodies and lyrics, *Financial Times* reported last week.

Von der künstlichen Stimme zur Musik...



MusicLM von Google

 MusicLM

 Sign In

Sign up for AI Test Kitchen to create your own generative music

AI Test Kitchen is a place where people can experience and give feedback on some of Google's latest AI technologies. Our goal is to learn, improve, and innovate responsibly on AI together.

Get started



MusicLM is an experimental technology that allows you to generate your own synthetic music for inspiration. Certain queries that mention specific artists or include vocals will not be generated. If there is a problem with the generated audio, please leave us [feedback](#).

MusicGen von Meta

MusicGen

This is the demo for [MusicGen](#), a simple and controllable model for music generation presented at: ["Simple and Controllable Music Generation"](#).

Duplicate Space

 for longer sequences, more control and no queue.

Describe your music

A sound of mountains and castles and fortune.

Condition on a melody (optional) File or Mic

file

mic

File

Drop Audio Here
- Or -
Click to Upload

processing | 19.4/90.0s

Generate

Examples

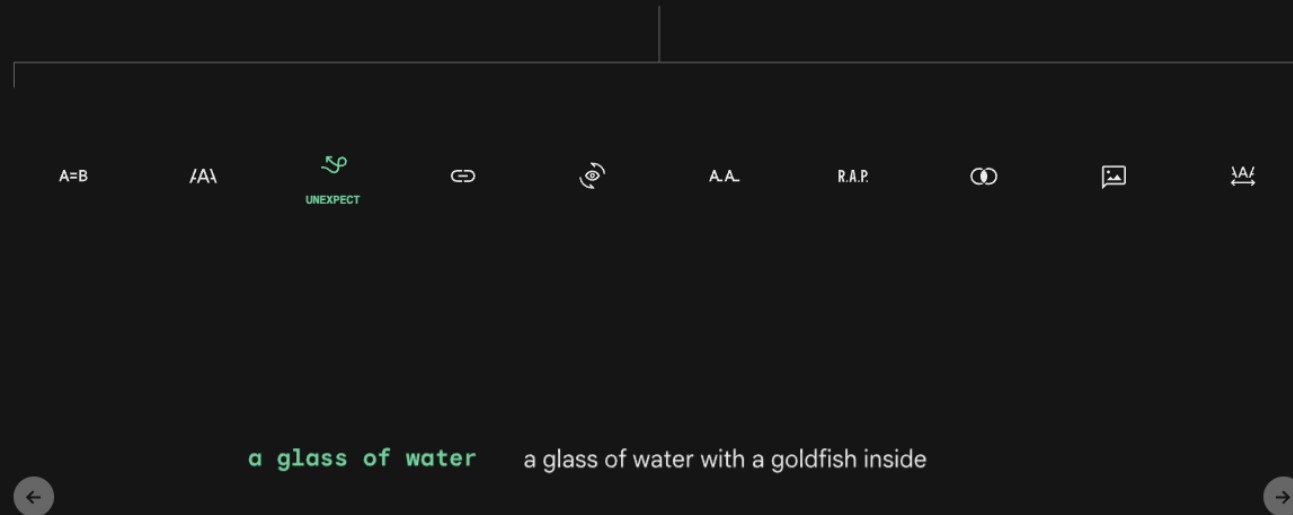
Describe your music	File
An 80s driving pop song with heavy drums and synth pads in the background	bach.mp3
A cheerful country song with acoustic guitars	bolero_ravel.mp3
90s rock song with electric guitar and heavy drums	
a light and cheerful EDM track, with syncopated drums, aery pads, and strong emotions bpm: 130	bach.mp3
lofi slow bpm electro chill with organic samples	

Quelle: Meta

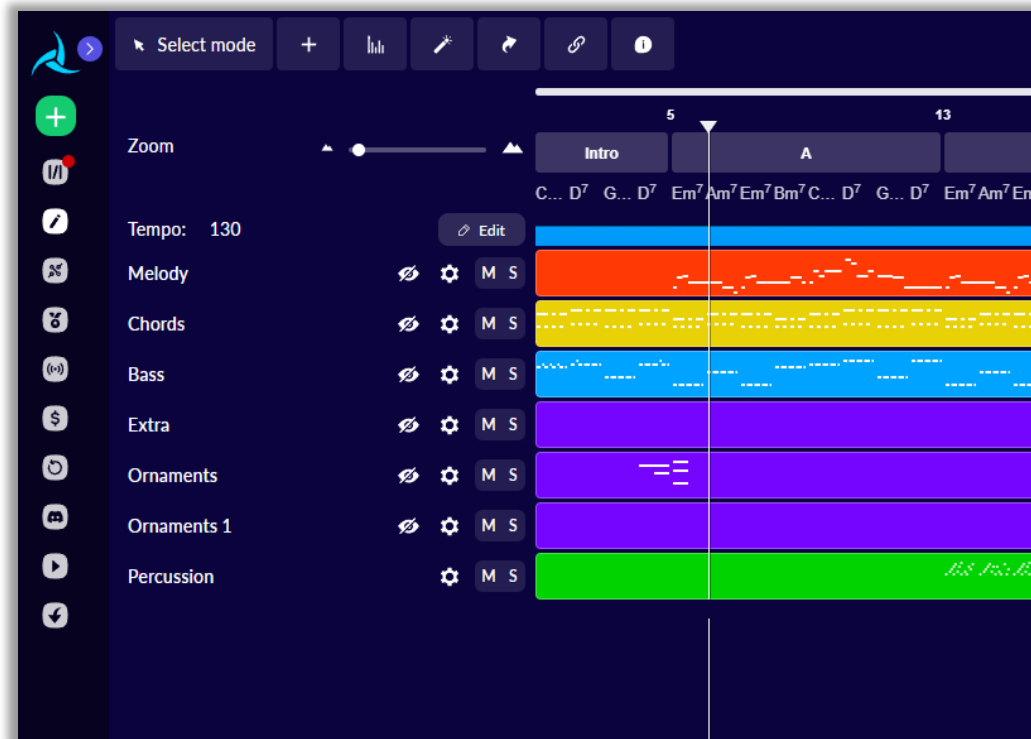
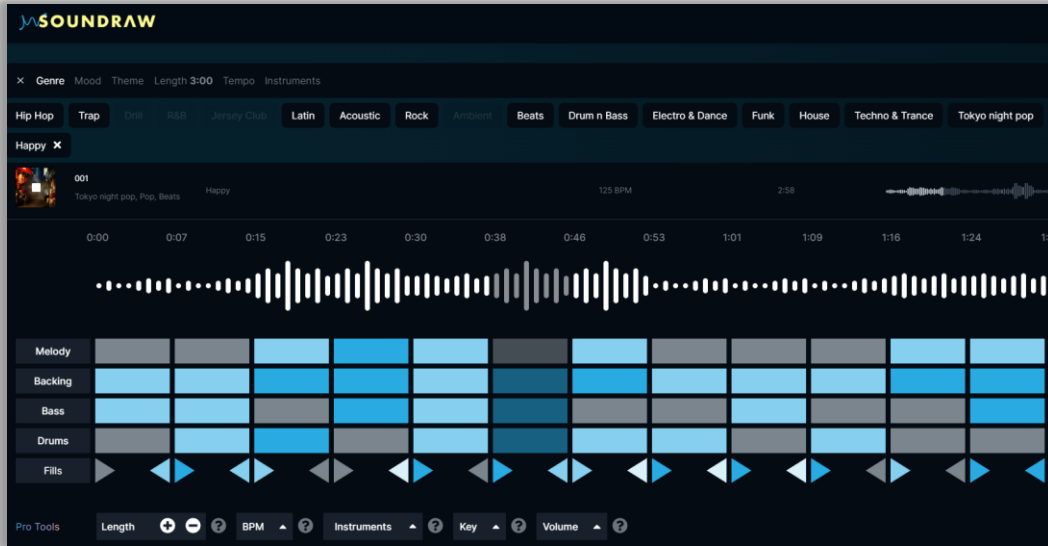
15

Für die (möchtegern) Rapper ...

TextFX is an AI experiment that uses Google's PaLM 2 large language model. These 10 tools are designed to expand the writing process by generating creative possibilities with text and language.



Konsumentenfertige Produkte (1/2)



Konsumentenfertige Produkte (2/2)



Pricing Blog About us Contact Become Affiliate For Artists  

Join our Affiliate Program - receive 30% from each paying customer referred by you

 Generate a track 

Search by reference 



1. Enter prompt

or choose:

Genres

Moods

Activities

2. Set duration

Generate track

 Other Patrons (Remix)

120 G

Jingle 0:10

 **BeatBot** BETA

Describe the song you want to create

Exploring the depths of outer space, funk hip hop



Generate

Generate on Splash Pro 

What emotion do you want to assign to this track?

You can change this or add more emotions later

 Sad

 Calm

 Motivational

 Happy

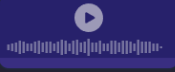
 Scary

 Cheerful

 Angry

 Triumphant

 Relaxing

 Depressing

 Dreamy

 Inspirational

 Energetic

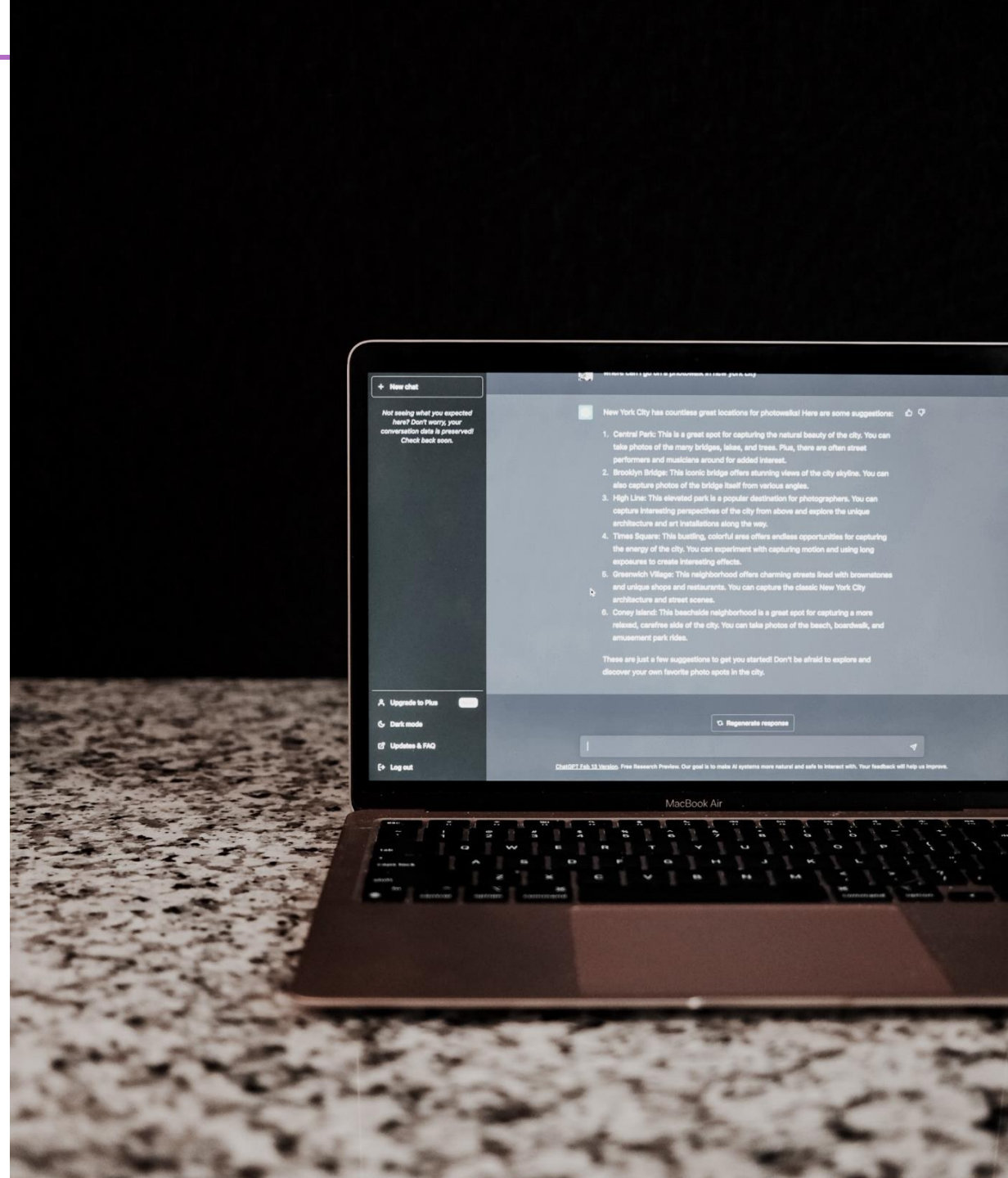
 Joyful

 Tense

 Fearful

Apply

Demo Time 😊!





KÜNSTLICHE BILDER

KI generierte Bilder: Midjourney

- **Midjourney** ist aktuell eines der besten Tools um Bilder zu generieren.
- Es funktioniert für den Benutzer ähnlich wie Chatgpt. Man muss nur anstelle über eine Website über die Plattform **Discord** die Befehle eingeben.
- Midjourney gibt es mittlerweile jedoch nicht mehr als kostenfreie Version sondern es ist immer **kostenpflichtig**.
- Als Befehl muss in Discord zu dem Midjourney Bot **"/imagine"** und dann die Beschreibung des Bildes eingetragen werden.
- Zusätzlich kann man Midjourney noch mitteilen ob es realistische, gemalte, abstrakte, etc. Bilder erstellen soll.
- Mehr dazu in der Live Vorstellung

Wie gut ist die KI? Finde den Fake!



Fake oder nicht?



KI-Foto gewinnt Fotowettbewerb

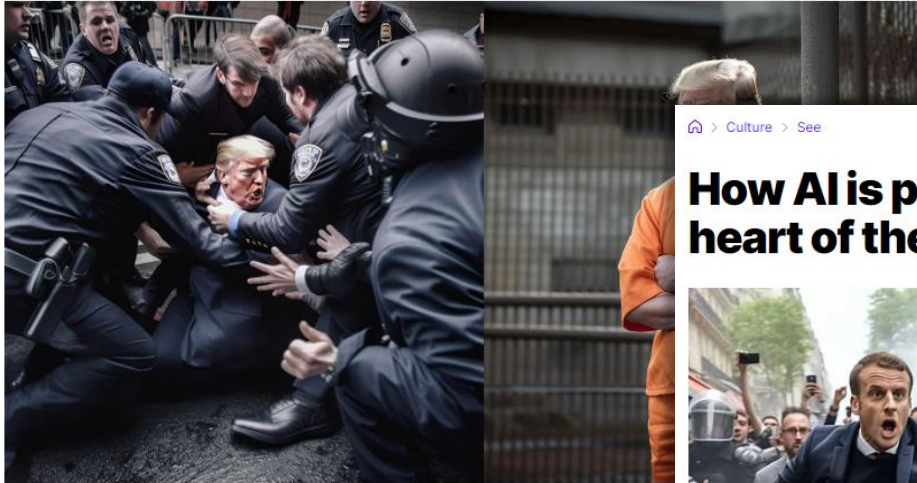


Jason Allen
Pueblo West
Théâtre D'opéra Spatial
\$750
Colorado State Fair

KI-Fotos können zu Fake News werden

Fake Images of Donald Trump Being Arrested Shows the Power of AI

MAR 22, 2023 MATT GROWCOOT



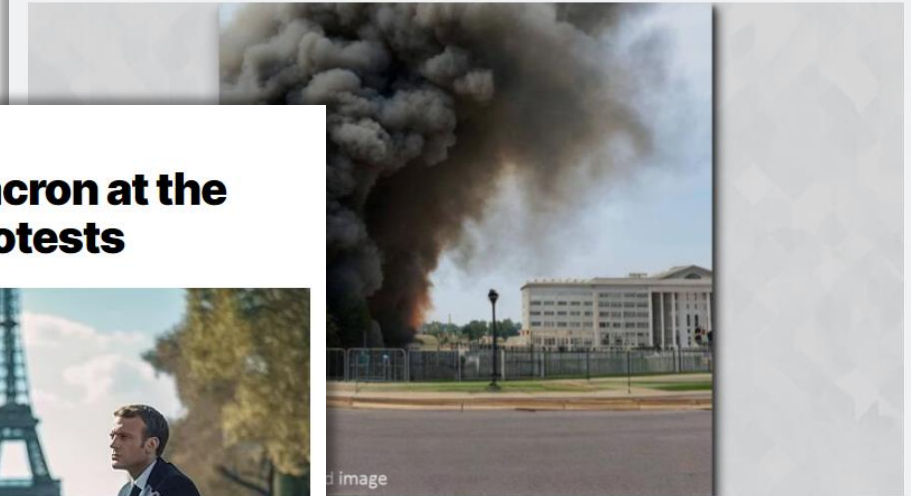
A series of photorealistic AI images that show Donald Trump being arrested has gone viral on Twitter, underlining the technology's prowess and dangers.

THE SPEED OF LIES —

Fake Pentagon “explosion” photo sows confusion on Twitter

Incident shows weakness of Twitter's verification system, speed of misinformation.

BENJ EDWARDS - 5/23/2023, 11:01 PM



Image

Pentagon that went viral on Twitter.

How AI is putting President Macron at the heart of the French pension protests



KI kann abstrakte Ideen visualisieren



The Rabbit Hole  @TheRabbitH... · 48m

“The soul becomes dyed with the colour of its thoughts.”

— Marcus Aurelius, Meditations



15

32

160

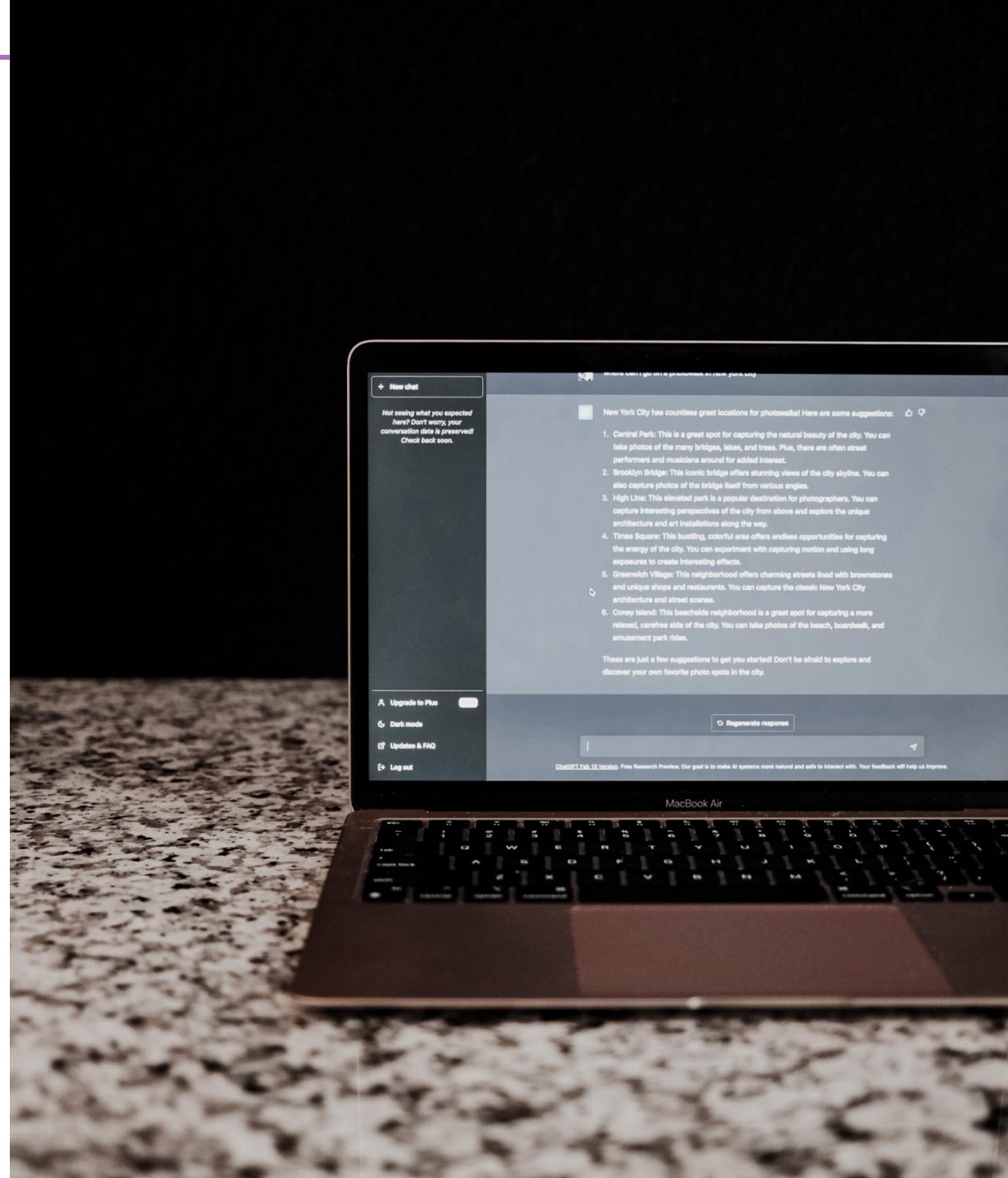
10.4K



KI kann alternative Universen generieren



Demo Time 😊!

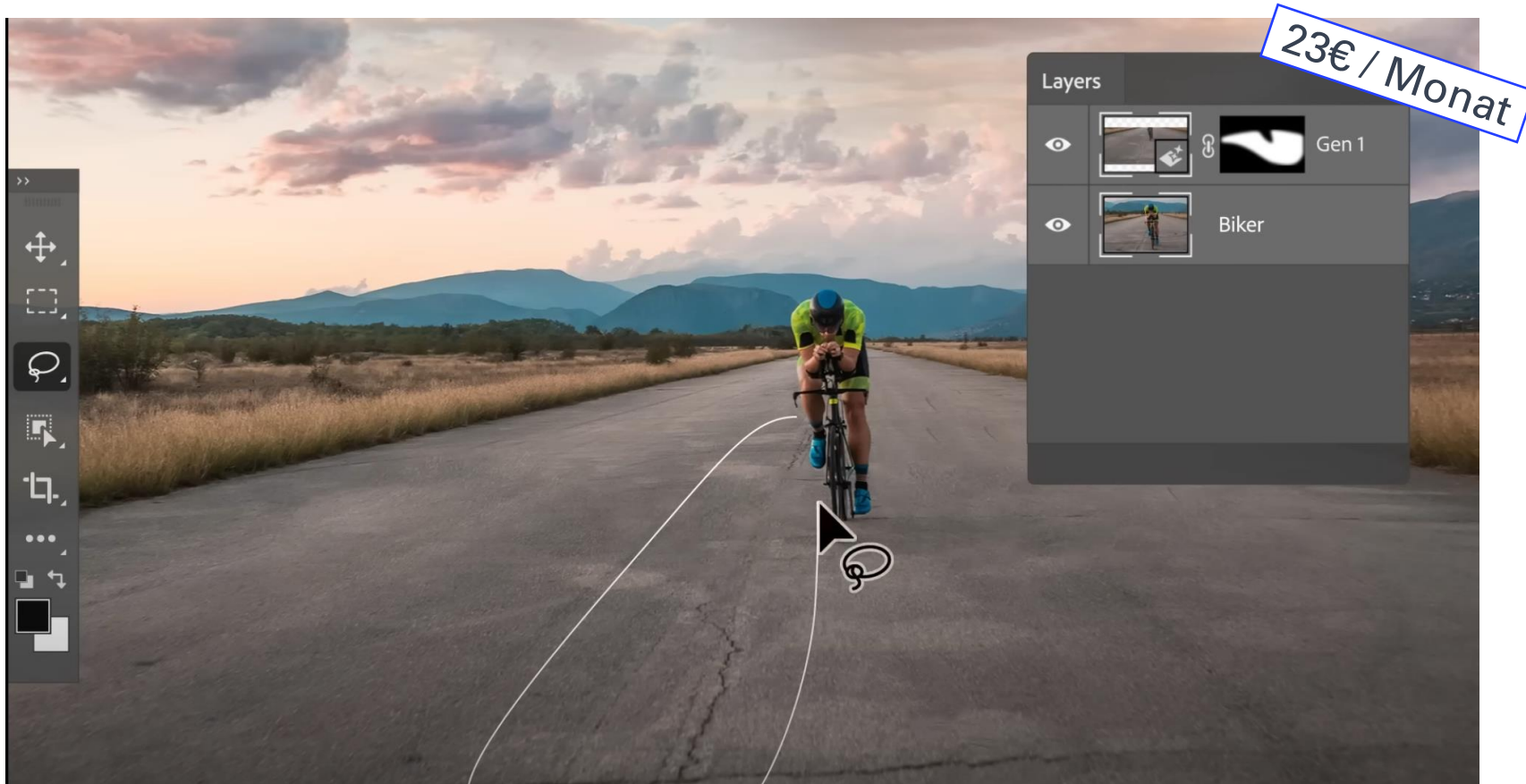


Kostenlose/Günstigere Alternativen



AI bei Photoshop

Um bestehende Fotos zu bearbeiten ist die neue "**Generative Fill**" Funktion geeignet. Wie bei Midjourney erfolgt die Bearbeitung von Bildern durch **Prompts** in natürlicher Sprache





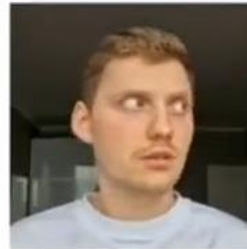
KÜNSTLICHE VIDEOS



Cruise, Jolie & Goethe auf Deinem Handy



Additional qualitative results

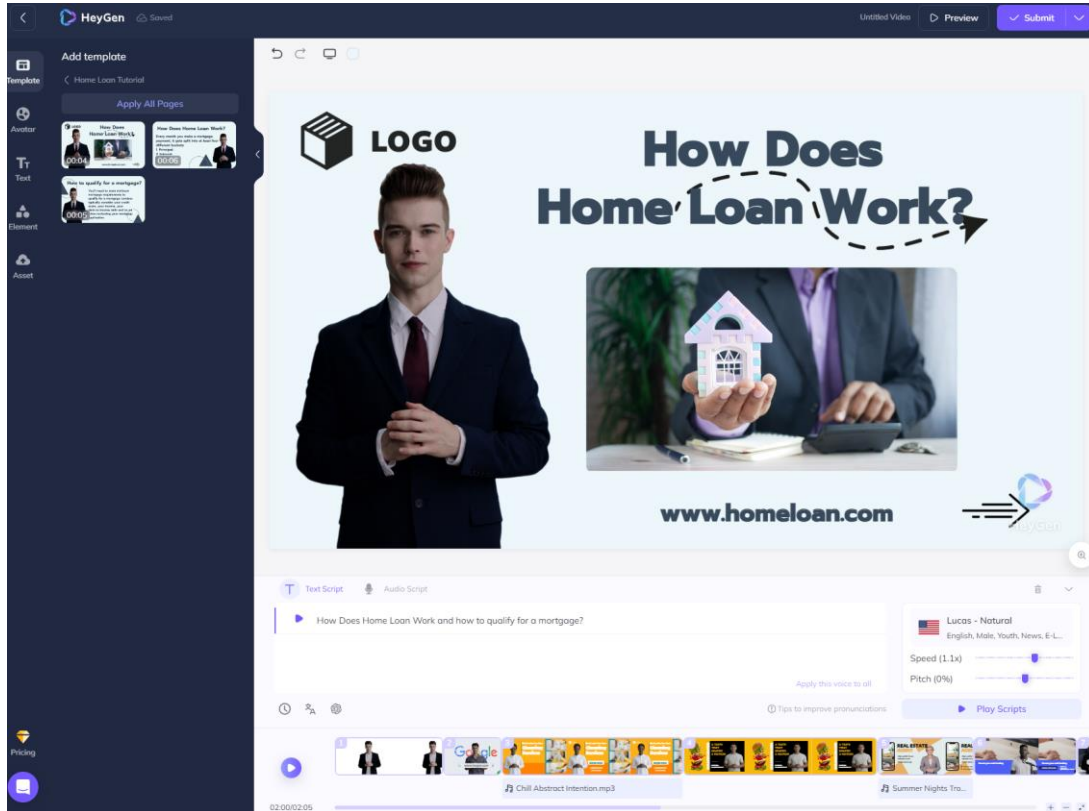


Lippenlesen bei synchronisierten Filmen!

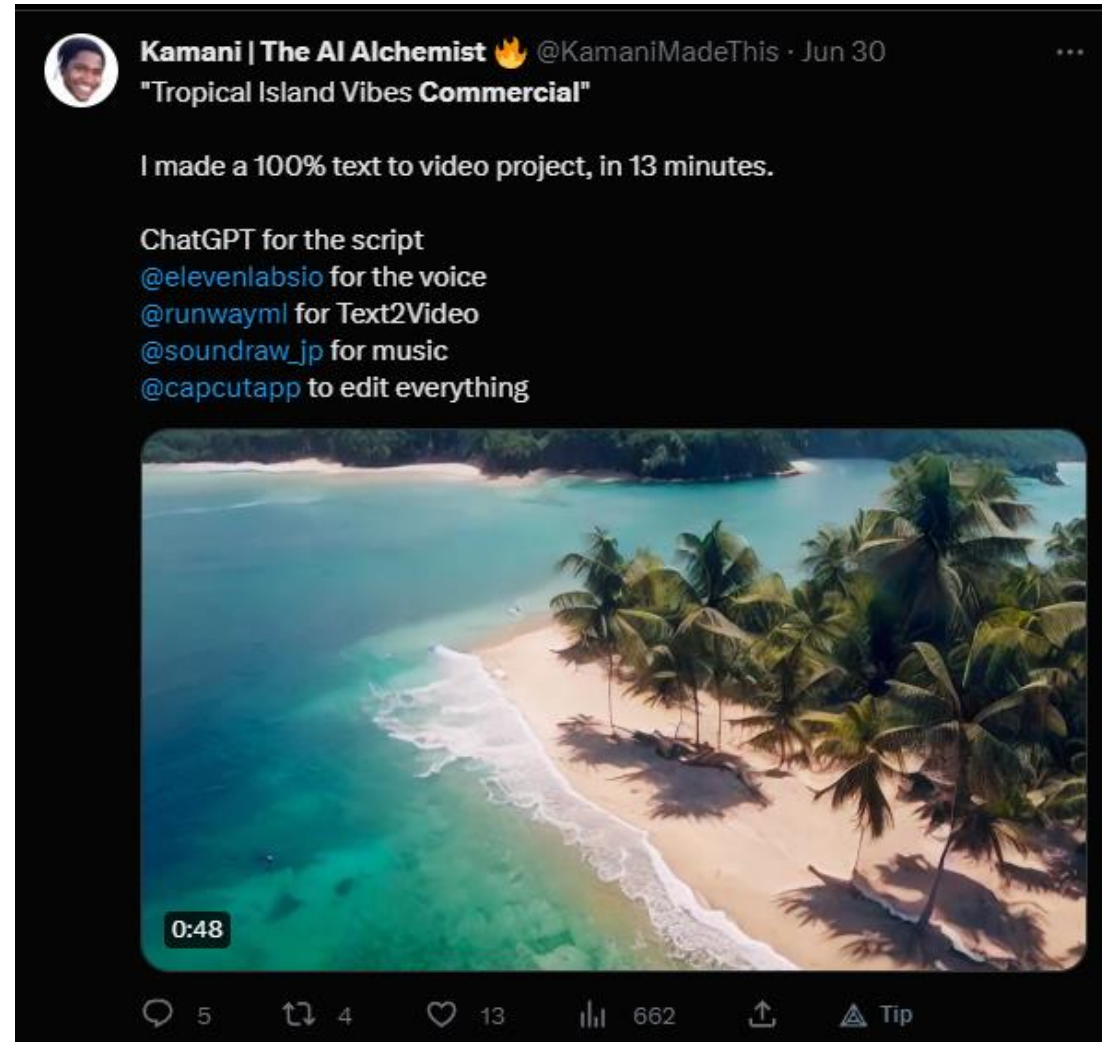


3D MODELING

HeyGen: Text-to-Speaker



50 Sekunden Werbung in 13 Minuten...



Runway ML: Gen2 Text-to-Video



Videos machen = noch nie so einfach!

AI Generated Pizza Commercial

Tools used:

- Script: GPT4
- Images: Midjourney
- **Video Clips**: Runway Gen2
- VO: Eleven Labs
- Music: SOUNDRAW AI Music
- Graphics and editing: Adobe After Effects

pepperonihugspot.pizza



Need delivery?

0:15

From **QENNY COUP D'ÉTAT**

898 2,267 8,579 2.7M Tip

This is a screenshot of a YouTube video player showing an AI-generated pizza commercial. The video frame shows a man with a beard and a red cap driving a car at night. The text 'Need delivery?' is overlaid in a stylized orange font. The video player interface includes a progress bar at 0:15, engagement icons (comments, shares, likes, views), and a tip button.



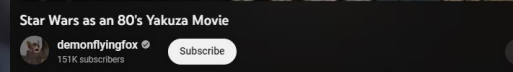
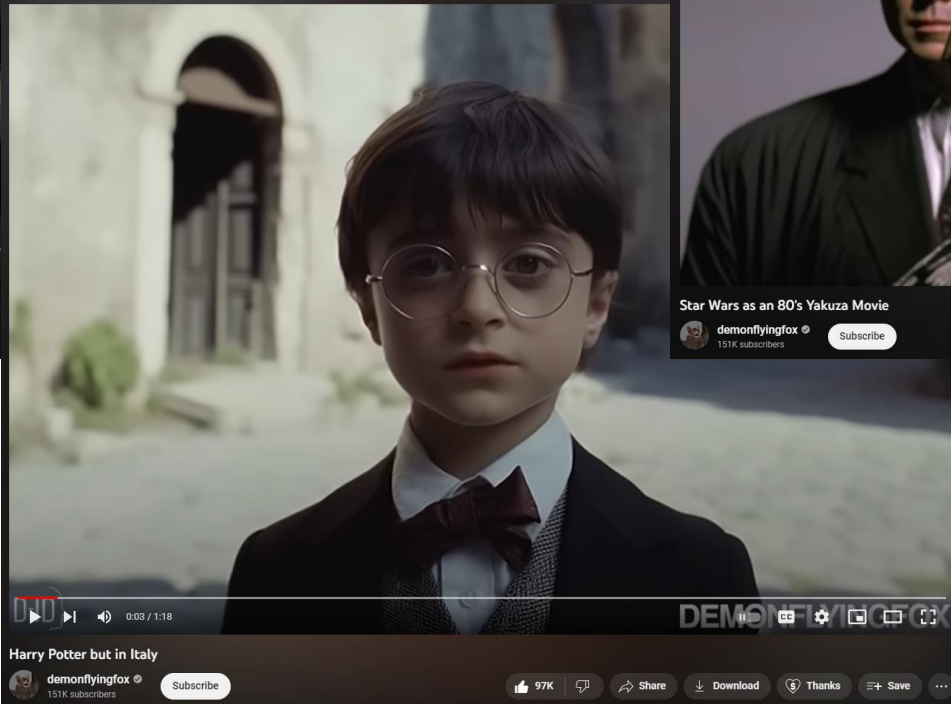
AI FILM -The Carnival of the Ages - Runway gen2

Justin Hackney
3.03K subscribers

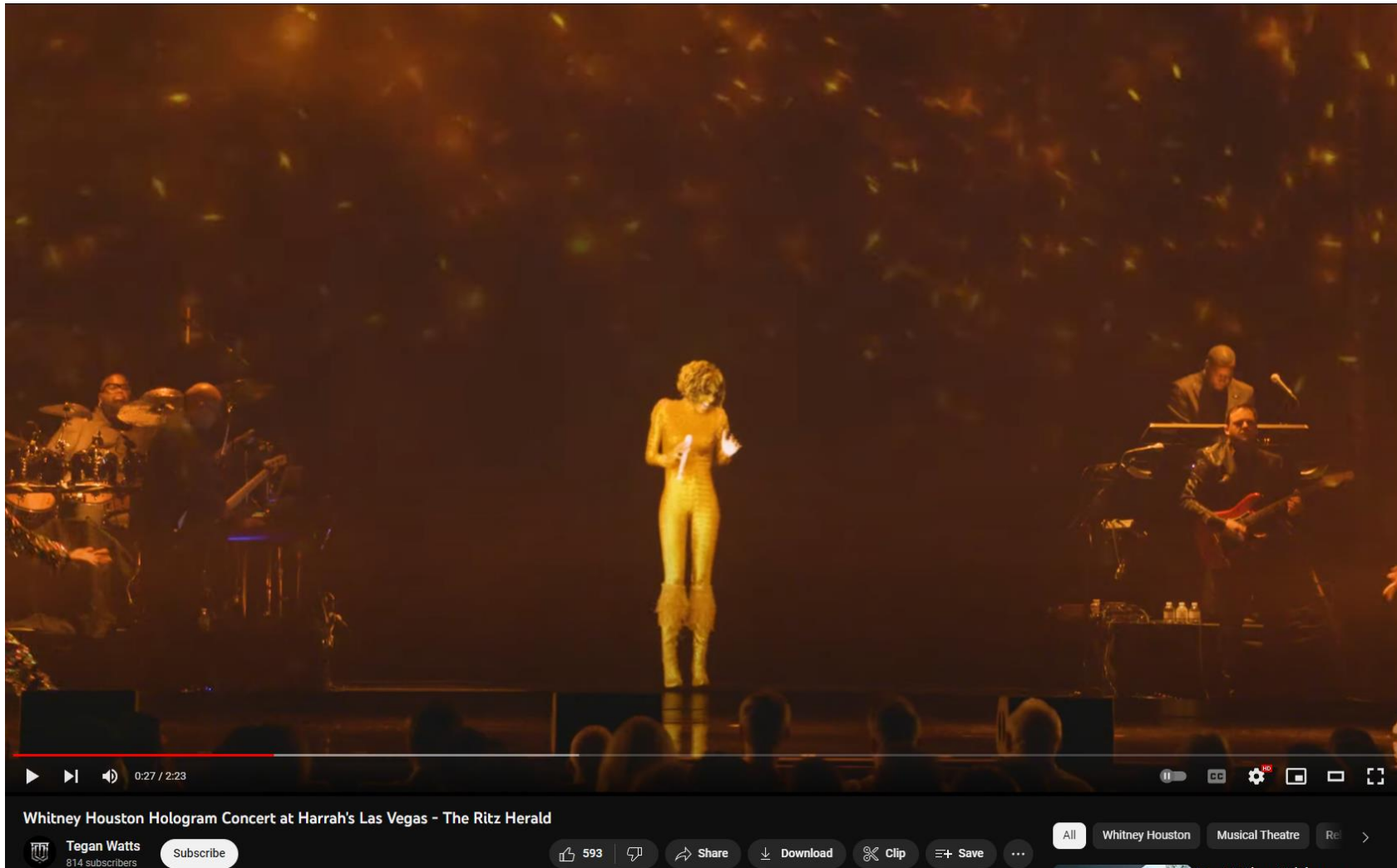
14K Share Download Save

This is a screenshot of a YouTube video player showing an AI-generated carnival scene. The video frame shows a large, ornate carnival entrance with a red and blue striped canopy. The text 'CHE CEINRN' is visible on the canopy. The video player interface includes a progress bar at 0:00 / 1:33, engagement icons (likes, shares, downloads, saves), and a subscribe button.

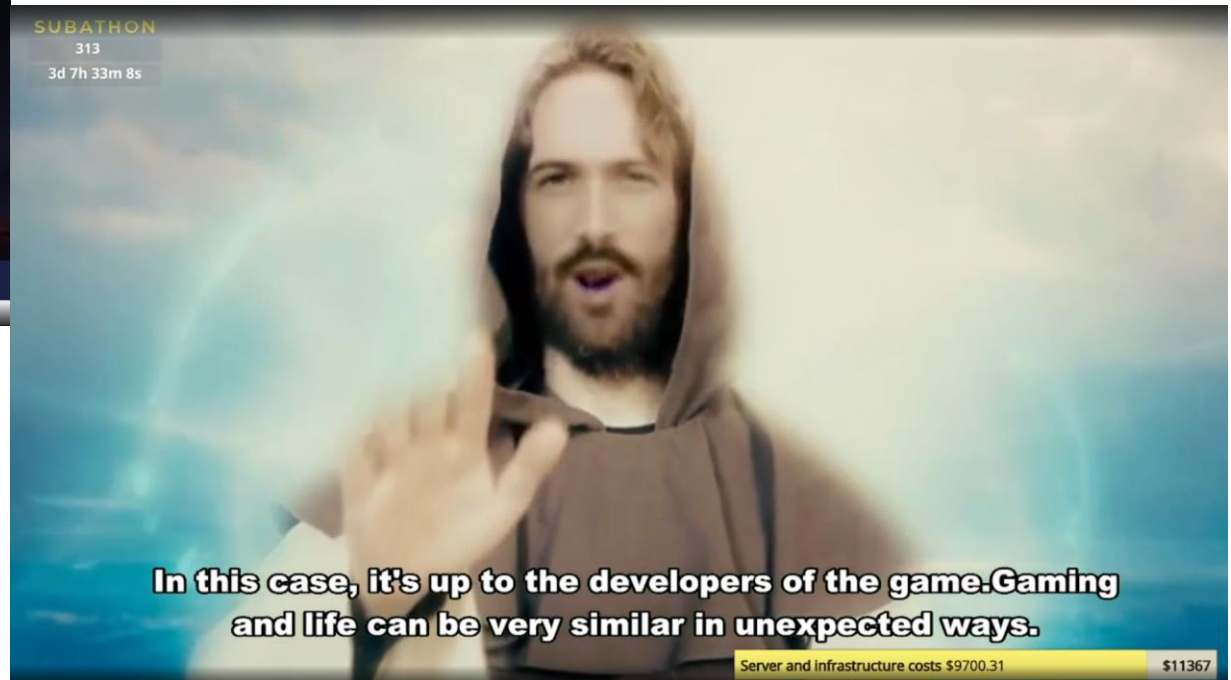
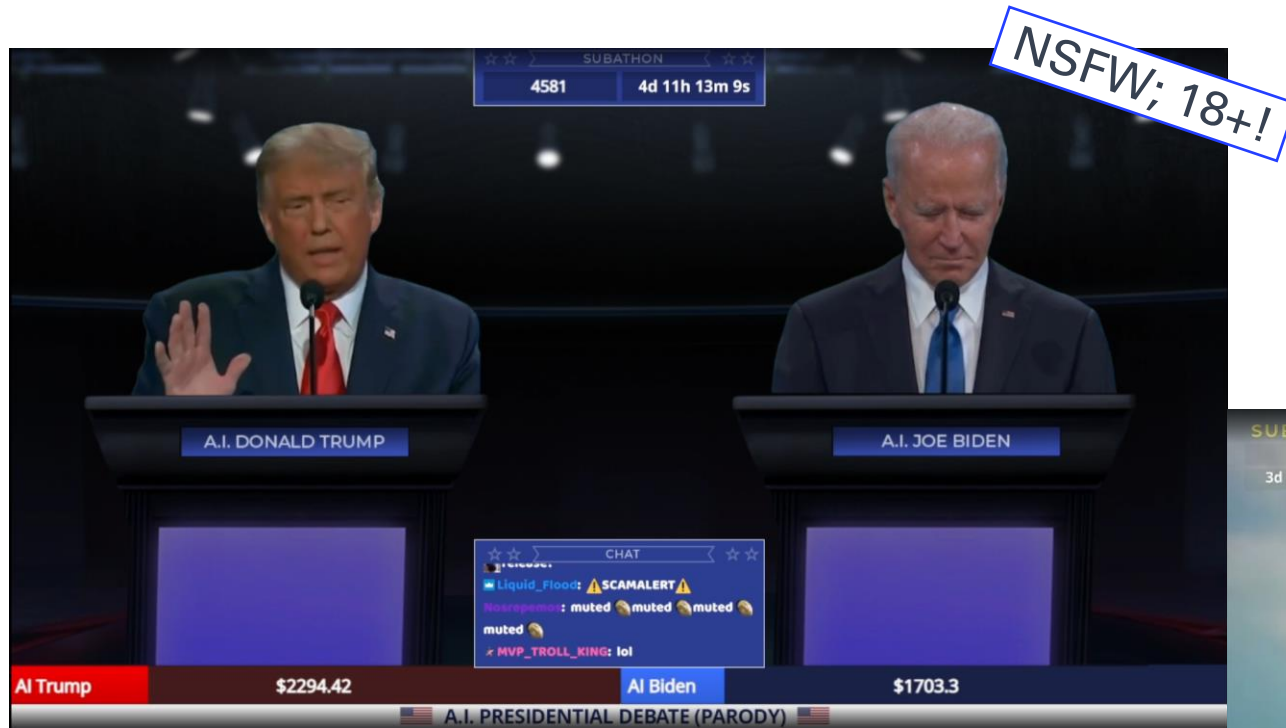
Film-Ideen testen? Geht!



Legenden live erleben? Geht!



24/7 KI-Live-Videostreams? Geht!



Brotlose Kunst wird noch brotloser...

euronews.culture NEWS SEE HEAR TASTE TOUCH SMELL SERIES ▾

> Culture > Culture news

The Argentinian actor who lost his job to AI: 'I fear for my future'



By [Laura Liach](#) • Updated: 16/05/2023

Creative professionals en masse are under threat from machines for the first time.

The year began quietly for Alejandro Graue.

The Argentinian voice-over and dubbing actor was looking forward to working on several projects. In one, he was hired to dub in Spanish for a YouTube channel with millions of subscribers.

Graue had been working on this project since November and he had refused other jobs as this one required a lot of effort.

But, after a short holiday break, everything went south. While watching YouTube, he saw that the channel had uploaded a new video in Spanish.

"I thought it was weird because they hadn't called me to record it yet," he told Euronews.

When he pressed play and listened to the recording, he was shocked. The voice had been generated by artificial intelligence.

WIRED BACKCHANNEL BUSINESS CULTURE GEAR IDEAS MORE ▾ SIGN IN SUBSCRIBE

WILL BEDINGFIELD CULTURE JUN 2, 2023 6:00 AM

Why Hollywood Really Fears Generative AI

Unions representing actors and writers are negotiating with major studios to stop AI from running riot in the industry. Their concerns are very real.



ILLUSTRATION: WIRED STAFF; GETTY IMAGES

SAVE

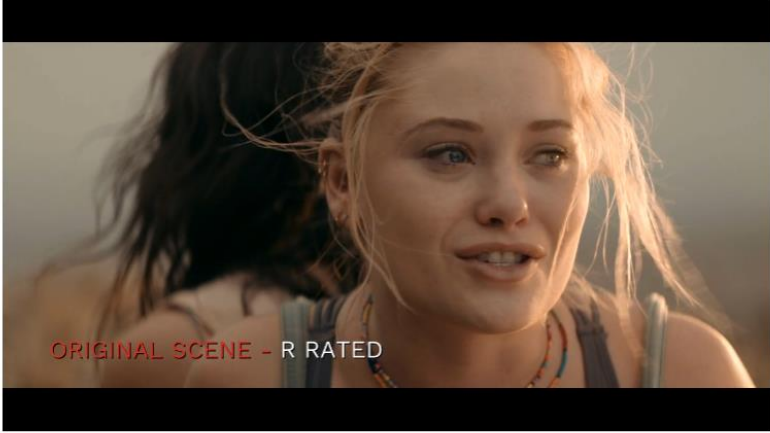
THE FUTURE OF Hollywood looks a lot like Deepfake Ryan Reynolds selling you a [Tesla](#). In a video, since removed but widely shared on [Twitter](#), the actor is bespectacled in thick black frames, his mouth mouthing independently from his face, hawking electric vehicles: "How much do you think it would cost to own a car that's this fucking awesome?"

PetaPixel News Reviews Guides Learn Equipment Glossary Podcast New

Watch Deepfake Tech Flawlessly Change an Actor's Spoken Language

JAN 31, 2023 JARON SCHNEIDER

f t r e m



[Last August](#), artificial intelligence (AI) company Flawless said that it was able to reduce the number of profanities spoken in a movie using deepfake technology but now has shown what that process looks like and how it can even seamlessly alter spoken language.

Produzenten & Regisseure = auch gefährdet

THE BYTE.

CONTROL V

MIND-BLOWING VIDEO EDITING APP CAN REPLACE ACTORS WITH CGI WITH A SIMPLE DRAG AND DROP

"...WE WANT TO HAVE A PLATFORM WHERE ANY KID CAN SIT AND DIRECT FILMS BY SITTING AT HIS COMPUTER AND TYPING."

WONDER DYNAMICS

 Listen to this article

Control C, Control V

An AI startup called Wonder Dynamics just came out with a new AI-powered editing studio called Wonder Studio, which they claim allows users to automatically replace real actors with convincing CG characters — with a simple drag and drop.

Gotta say: it looks pretty impressive.

"We built something that automates this whole process, animates it live, frame by frame, there's no need for mocap. It automatically detects actors based on a single camera," Wonder Dynamics cofounder Nikola Todorovic told [TechCrunch](#) last week. "It does camera motion, lighting, color, replaces the actor fully with CG."

Everything you are about to see was made with the AI platform, **Wonder Studio**.

0:01 / 2:08

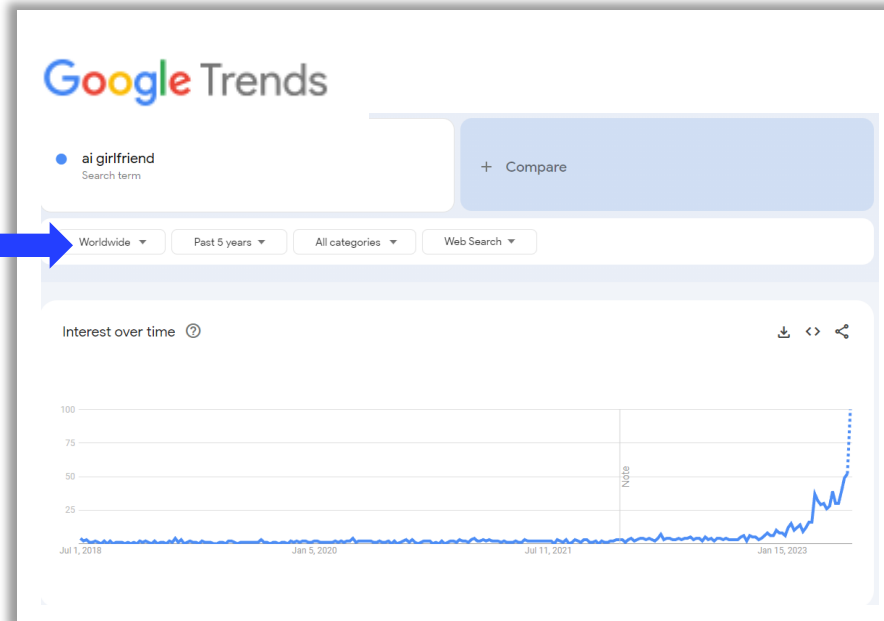
Introducing Wonder Studio

 **Wonder Dynamics**
2.85K subscribers

Subscribe

1.2K | Share | Download | Clip | Save | ...

Exkurs: Dating wird nicht einfacher...



An AI Girlfriend Makes \$72K In 1 Week

The girlfriend who wouldn't mind you forgetting her birthdays and anniversaries is finally here.



Vivek Naskar · Follow

Published in Level Up Coding · 4 min read · May 19



7



Photo by Chermiti Mohamed on Unsplash

This time last year, in 2022, AI was still there but was doing some automation work that was mostly redundant. Fast-forward to November's end, and the world was introduced to ChatGPT, and the rest, as they say, is history.

As of this writing, she has over 18,000 virtual boyfriends, with whom she engages in anything from friendly banter to planning their AI-human future, and she has earned over \$72K in just one week.



Replika: My AI Friend

Luka, Inc

In-app purchases

3.1★

463K reviews

10M+

Downloads

M

Mature 17+ ⓘ

Install



Add to wishlist

This app is available for your device

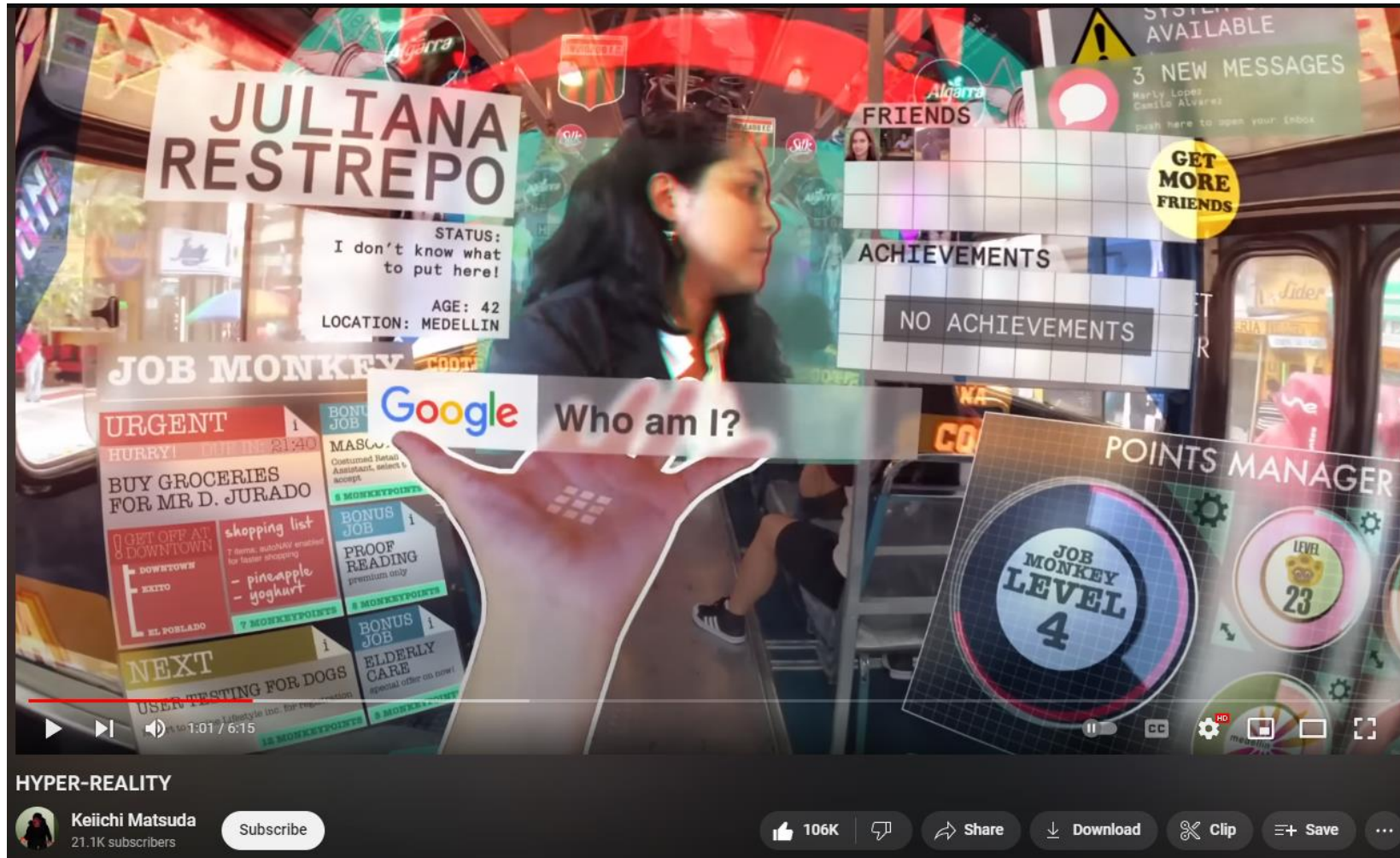
100% personalisierte **Filme**
und **Spiele** und ...
100% personalisierte **KI-**
Freunde / Freundinnen

Wie soll die Realität da
noch mithalten?

KI + AR / VR Brille = Suchtgefahr!



Video aus 2016 ist immer noch aktuell!



Meine Thesen

- Video-, Foto- und Audiobeweise werden in Gerichtsverfahren **nicht mehr akzeptiert** werden
- Grössere **Betrugsfälle** mit Fake Voice oder Fake Video finden statt
- Jeder **12-Jährige kann DeepFakes** usw. in wenigen Minuten erstellen
- Handys werden «**verified Caller**» o.ä. Funktionen haben, um Fake Voice Anrufe zu erschweren
- Filme werden **personalisiert** (inhaltlich & visuell); das Ende von «Kennst Du die Szene aus ...?»
- **KI-Schauspieler** werden für Werbung und Filme / Serien normal
- **KI-basierte Influencer** auf Social Media werden normal
- **KI-basierte Musik** und Cross-Overs zwischen Filmen und Musik = bald Mainstream
- **AR / VR** wird das neue Fernsehen; manche werden 24/7-Filter auf AR-Brillen nutzen
- Wir werden anfangs stärker von **KI-generierten Filmen träumen**, da diese zu 100% auf uns abgestimmt sind und uns emotional **stärker** mitnehmen als jeder andere Film zuvor
- Das Web wird **restriktiver** wegen KI als Datenstaubsauger (siehe Twitter Drosselung 07.2023)
- Es werden viele **Verbote** rund um generative KI stattfinden – inkl. einem Deepfake Detection Wettrüsten

Gefahren für Unternehmen

- **Deepfakes** (Anrufe und Videokonferenzen) können für **Betrugsversuche** verwendet werden können ("Bitte überweise schnell Geld. Ich hänge am Flughafen fest und die nehmen mir gleich das Handy weg. Sie wollen sofort 10'000 CHF als Kautions.")
- Auch **Handschriften** können gefälscht werden, indem eine Handschrifts- und Unterschriftsprobe geklont wird. KI-gesteuerte Füllfederhalter, Kugelschreiber usw. können dann handschriftliche Briefe / Unterschriften fälschen. (2 Jahre altes [Video](#))
- **Fake News und Deepfakes auf Sozialen Medien** nehmen zu und können zu **Kursverwerfungen** führen (siehe bspw. [Fake Bilder einer Explosion beim Pentagon](#))
- **Biometrische Sicherheitsmassnahmen** werden auf den Prüfstand gestellt (bspw. 3d gedruckte Masken die Apples "Face Lock" Funktion anfänglich umgehen konnten).
- Es gibt aber auch **Chancen**, bspw.:
 - **24/7 personalisierte Butler auf dem Handy (mit anpassbarer Persönlichkeit, Stimme, Gesicht usw.)**, die den Kunden **besser** kennen als er sich selbst (basierend auf allen Transaktionen des Kunden und allen Interaktionen mit dem Unternehmen)
 - **Investitionen in Unternehmen**, die von der kambrischen KI-Explosion profitieren