

Talk links:

- Link to this talk on my website - <https://www.houghtonphoto.com/photographyinanaiworld>
- My RPS article - https://issuu.com/royalphotographicsociety/docs/di_news_jan_2023_2/18
- IBM summary on AI - <https://www.ibm.com/topics/artificial-intelligence>
- Unmesh Dinda Youtube video on masking all objects in Photoshop - https://youtu.be/s9mW-a_pV94



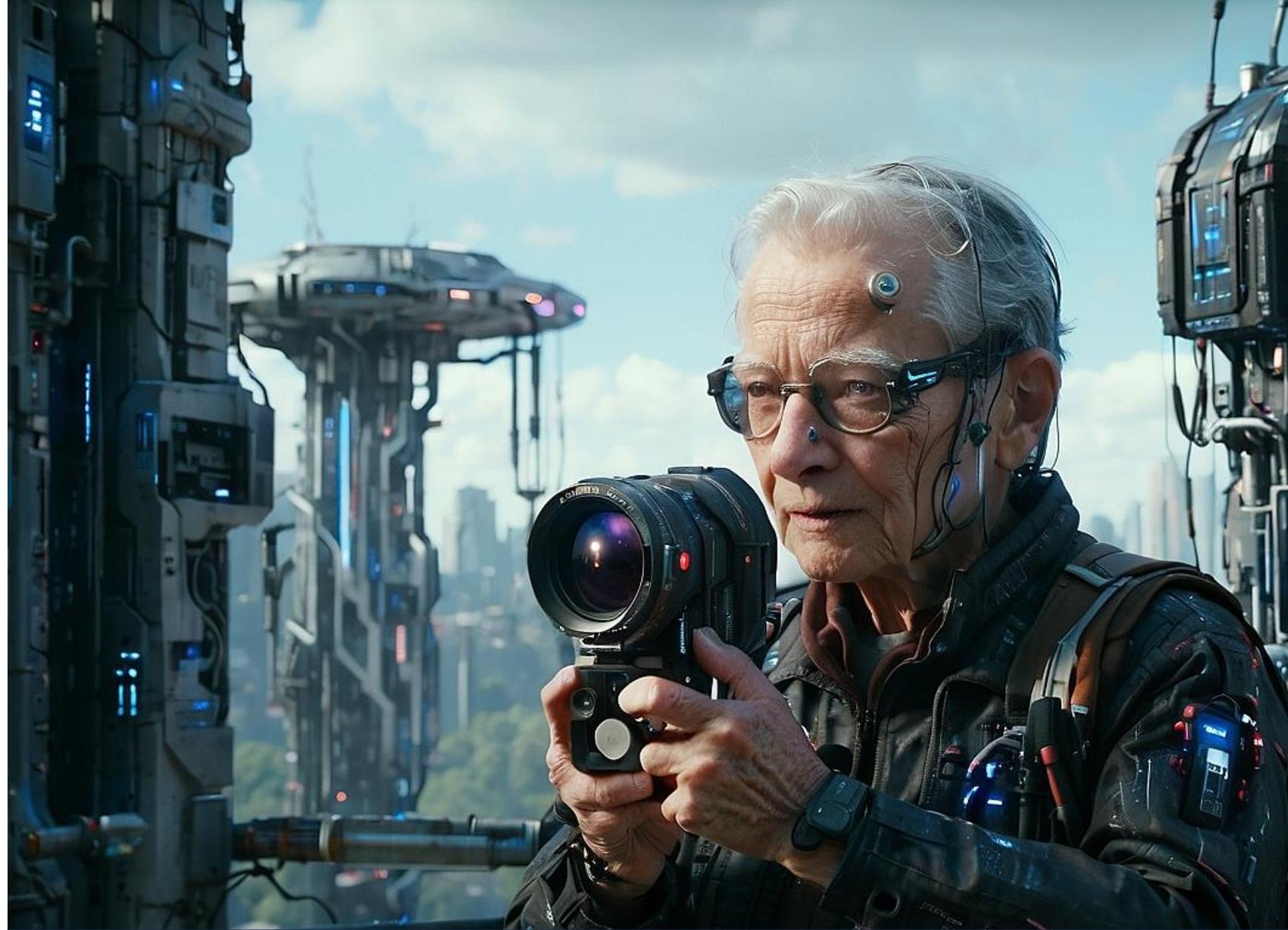
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Photography in an AI world

A look at what's here, and what's coming
in artificial intelligence from a photography
perspective...

A facilitated discussion by Joe Houghton



AI generated image from Leonardo AI – prompt “A pensioner photographer taking a photo using a futuristic looking camera of a high-tech urban scene”

Why am I qualified to talk about AI?

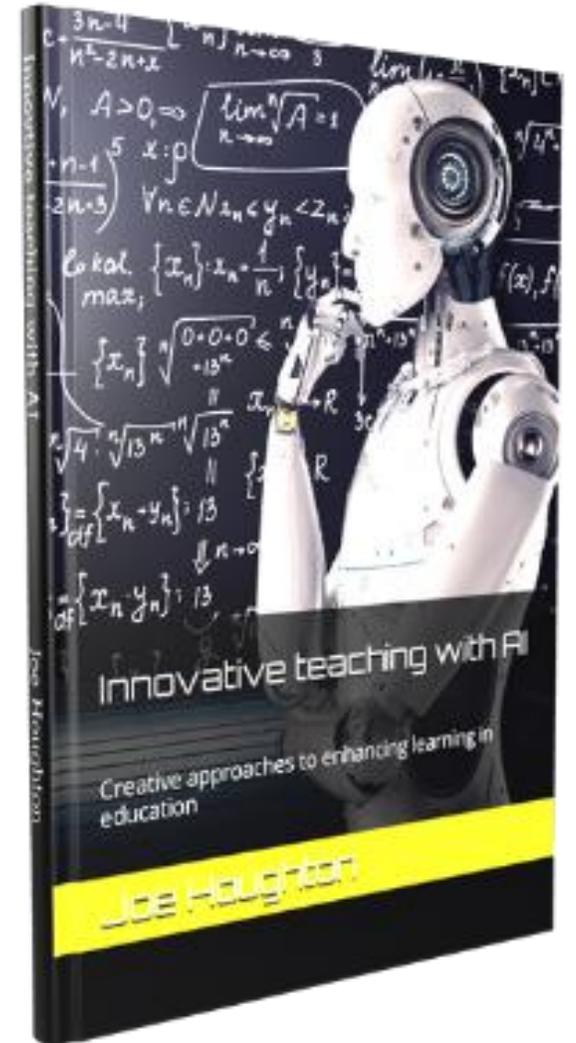
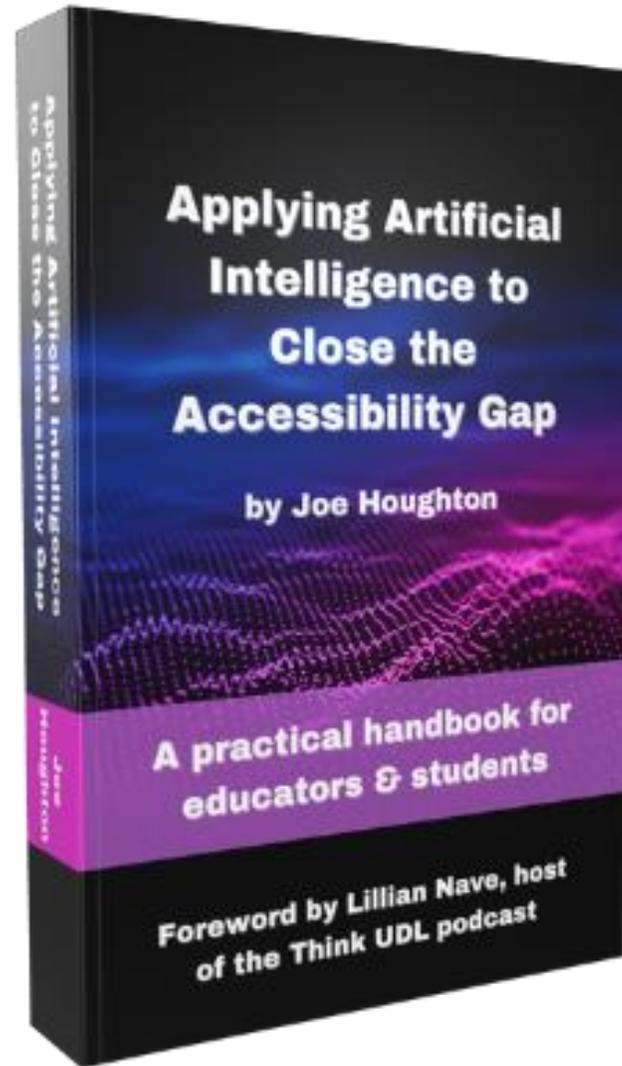
I've written 2 books on AI in education

I'm 1 of 2 AI advisers to the RPS Digital Imaging group

I'm a regular speaker at seminars & conferences on AI

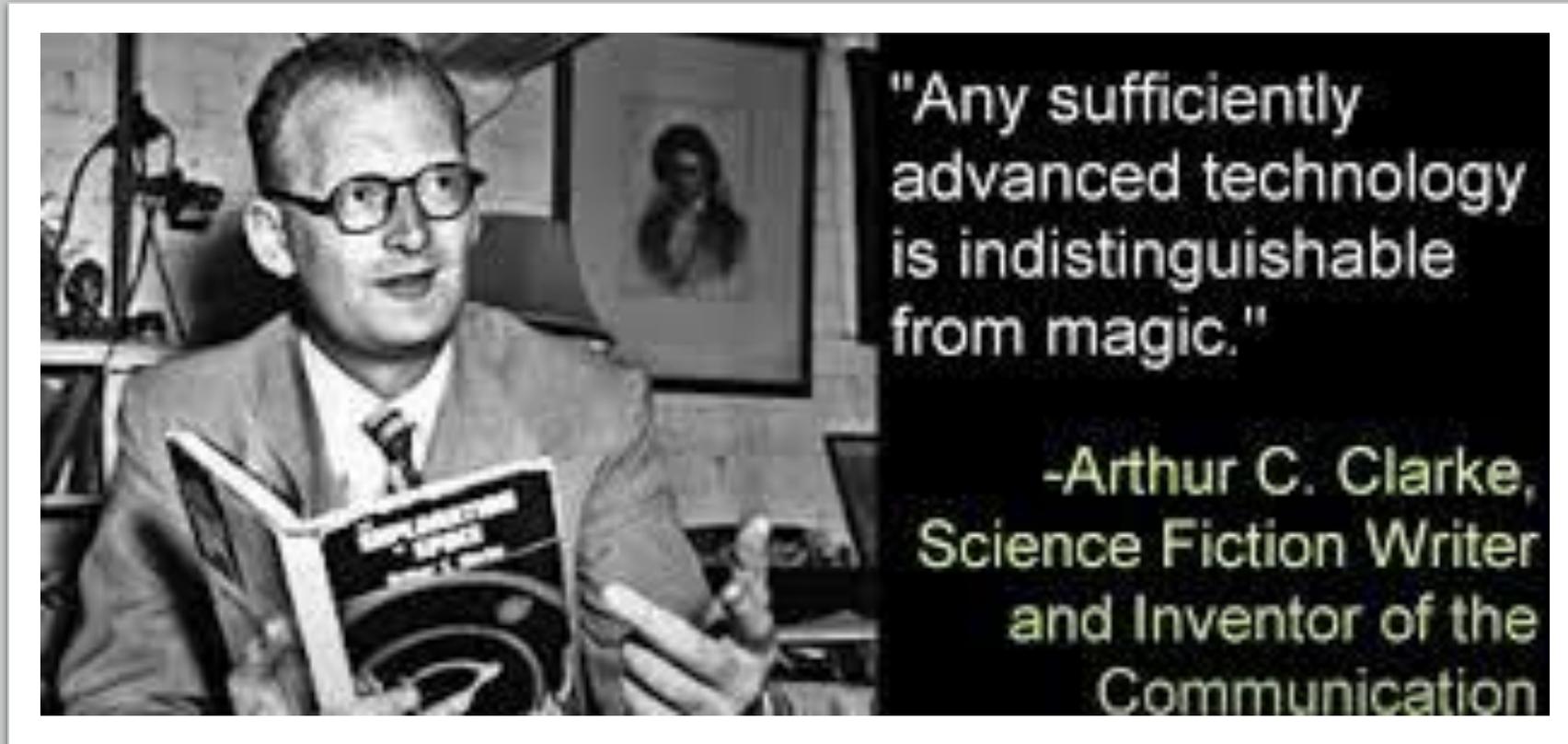
I write a weekly LinkedIn newsletter with 2000 subscribers on AI

I've advised/trained 20 companies & universities on AI implementation



The same prompt in Copilot as Leonardo's cover image...





"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clarke,
Science Fiction Writer
and Inventor of the
Communication

Arthur C. Clarke

My article for the RPS
DIGIT magazine (Jan
2023)

I also write a monthly
AI column for the RPS
DI Online Magazine

Photography in an AI world...



Artificial intelligence (AI) is set to revolutionise the way photographers capture and edit images. AI can help photographers create more dynamic, powerful and engaging images. AI-powered photography tools can allow photographers to identify, analyse and edit images with unprecedented accuracy and complexity.

AI-enhanced image recognition technology can help photographers identify and categorise different elements of a scene. This technology can be used to identify specific objects and colours in a photograph, enabling photographers to create more dramatic and balanced compositions. AI-based image recognition can also be used to identify and separate elements in a scene, allowing photographers to create more sophisticated compositions.

AI can also be used to improve image editing. AI-driven tools can be used to recognise and adjust elements in a scene, allowing photographers to create more powerful and realistic images. For example, AI-driven tools can be used to identify and adjust shadows and highlights, allowing photographers to create images with greater depth and dimension. In addition to enhancing image editing, AI can be used to improve the overall quality of images. AI-driven tools can be used to identify and correct image artefacts, such as noise and blur, allowing photographers to produce sharper, more detailed images. AI can also be used to optimise image compression, allowing photographers to produce smaller, more efficient files.

AI-driven photography tools are set to revolutionise the way photographers capture and edit images. AI-enhanced image recognition technology, improved image editing features, and optimised image compression will all help photographers produce more powerful and engaging images. AI-driven photography tools are set to be a game-changer for the photography industry, allowing photographers to take their creative vision to the next level.

If you've read this far you're clearly interested in this topic. I've something to confess. Everything in this article before this line was created by an AI text generator. And so was the header image.

Yes, that's right, all I did was fire up the free tool CANVA Doc (<https://www.canva.com/docs/>) Pressing the forward slash and selecting "Magic Write", I typed in "Give me 200 words on how artificial intelligence will change photography in the future".

It took about 15 seconds. Breaking that section down, the first paragraph is an introduction, the next 3 are the different areas AI is affecting photography - image recognition, image editing and image quality, followed by a summary. Scarily good isn't it?

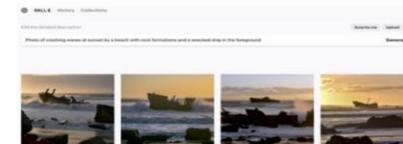


This image was generated by the Dall.E 2 AI image generator from the prompt "An artificial intelligence photographic scene with digital cameras and computers"

These are good suggestions, and pretty specific to Lightroom Classic too. Even if I might want to use other tips, what a great jumping off point - no more blank page blockers, just ask the AI to give you some ideas and then use these to jump off into your own thoughts. Or just use what it generates - how many of our news articles today do you think are actually written by real humans any more? Short form article writing is now able to be done far faster than any human can write - CANVA took about 15 seconds to generate those first 200 words. The rest are mine - honest, but they took me all afternoon to create! As a self-confessed geek and tech-lover, this is an area I love, so let's have a look at what's happening, surely images are different?

Image Creation using AI

Dall.E 2 is an AI image generator (<https://openai.com/dall-e-2/>). All you do is type in a description of the image you want, and within a few seconds Dall.E offers you 4 choices of thumbnail - you can then generate a high-resolution version of any of them. I typed in "Photo of crashing waves at sunset by a beach with rock formations and a wrecked ship in the foreground" and this is what it came up with after about 5 seconds:



RPS DIGIT Article June 2023

“...there’s only 1 way to resolve the issue of AI in photography... ban any image being submitted to any competition shot or processed on a digital camera...”

.....WE MUST BAN ALL IMAGES SHOT ON A CAMERA ! BY [JOE HOUGHTON](#)



Listening to all the current kerfuffles about AI, it's clear to me that there's only one way to

resolve the issue of AI in photography. We must ban any image being submitted to any photographic competition that was shot or processed on a digital camera or electronic device.

It's quite clear that the only "real" photograph is one captured on a film based camera, preferably a fully manual one with no fancy aperture or shutter modes. Photographs must be processed in a darkroom using paper and chemicals, and submitted via the Royal Mail or in person, and all club entries are to be signed in ink using a quill pen.

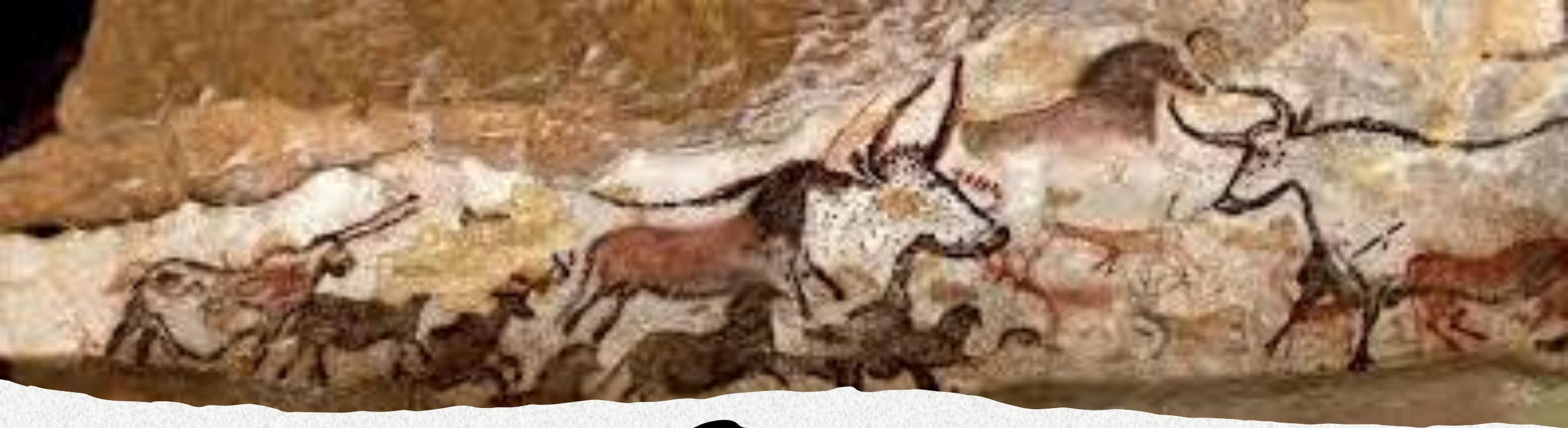
Dear reader, change is upon us yet again, and we must adapt or be left in the margins of history. AI imagery is here to stay, and will - like it or not - replace what we have up to

now considered to be "photographs" for almost every person on the planet apart from those very few concerned with the fine distinction of how this final image came to be. Media today is awash with imagery, and this has provided the "photographer" with rich pickings for almost a century (it was 1826 or 27 when Niépce took the first photograph). But generating photo-realistic images is now a commodity, not the purview of a technically competent elite. Shouldn't be allowed - I can hear the anguished cries! So if we want to separate the "artificial" AI generated image from the somehow more valid(???) camera generated photograph, we need a set of definitions - and QUICK - to make it clear to those who care (all three of them) what the acceptable differences are. In our very small (in the overall scheme of things) pond of amateur photography, this is - admittedly - a thing. Thousands of us love to submit images and have them critiqued as we learn to master

the aperture triangle and achieve a level of mastery over our camera kit. Those nasty AI images threaten this safe space with strange and sometimes scarily good images that have no business looking as good as they do - but they're not "real" are they?. Because they didn't come out of a camera. A super computer with more power in it than sent men to the moon. Of course they're real. And 99.9999% of the population don't care how they are made. They look good - and for everyone else, that's good enough. If "we" want to somehow differentiate between AI images and camera generated ones we need a set of rules to clearly separate the 2 - and good luck with that given the degree of computational power now built into every modern camera and phone. Or maybe we should just accept that an image is an image. Or maybe it's time to give up judging - it's impossible to know just how an image was created any more.... That's it - ban all competitions! Job done.



Let's have a look
at some ways AI
and photography
intersect today



Lascaux Cave Paintings
Created 15-17,000 years ago

Architectural frescoes
from the villa of Publius
Fannius Synistor at
Boscocreale, near
Pompeii

1st Century BC





Cloudy Mountains

Mi Youren (China), painted around 1130

*St Antoniuskapel
in the St Janskerk,
Utrecht, Pieter
Jansz.
Saenredam, 1645*



Joseph Nicéphore
Niépce (French,
1765–1833),
Untitled 'point de
vue,' 1827.
Heliograph on
pewter



Edmond de Belamy
– the first AI
generated image
(1998)



Jason Allen's A.I.-generated work, "Théâtre D'opéra Spatial," took first place in the digital category at the Colorado State Fair 2022.





LENSA app can create photorealistic versions of you from an uploaded phone pic

Issues around over-sexualized images produced by this and similar apps



Virtual Photo Shoot by Emin Kuliye

<https://www.facebook.com/photo?fbid=10230998636854467&set=pcb.10230998654214901>



Emin K
22 Mar
United

— at Bronx N



10



Like

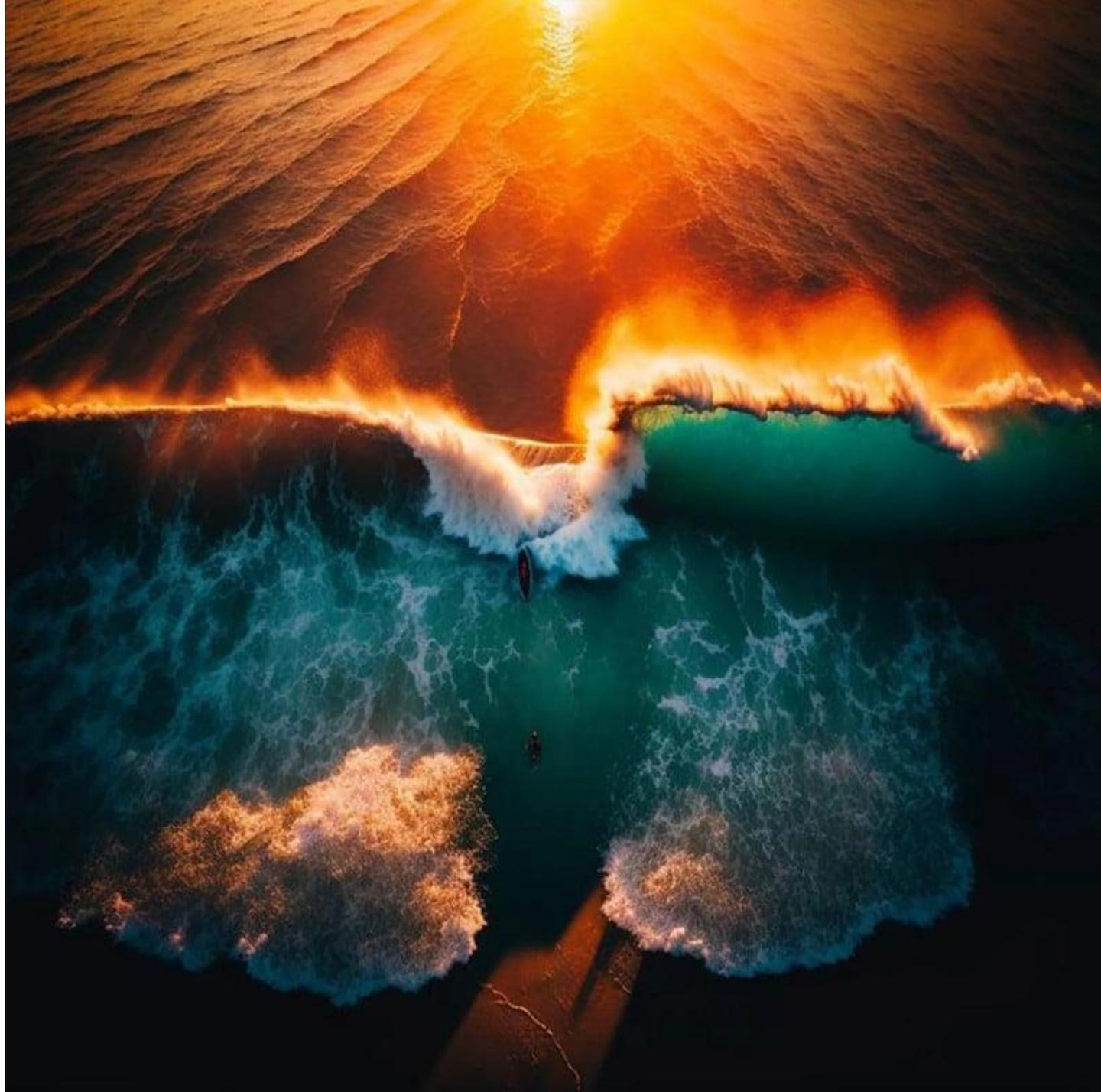
Feb 10th 2023

AI Image wins a weekly Australian photo contest with a cash prize.

“Drone shot” was actually AI generated by a studio who then confessed – an apparent publicity stunt (that worked!)

Article at

<https://petapixel.com/2023/02/10/ai-image-fools-judges-and-wins-photography-contest/>



Popular Instagram Photographer Revealed as AI Fraud

FEB 21, 2023

MATT GROWCOOT



February 23rd
2023

<https://petapixel.com/2023/02/21/popular-instagram-photographer-revealed-as-ai-fraud/?fbclid=IwAR0nqbqffJwuVw15LVHygBROcpHt4PVfDz-WQtTMzwDx311voHEOIFb4Wol>



A popular “photographer” who has amassed almost 30,000 followers on Instagram has admitted that his portraits are actually generated by artificial intelligence (AI).

An AI Image Winning a Major Photo Award Has Opened the World's Eyes

🕒 APR 20, 2023

👤 MATT GROWCOOT



April 20th 2023

AI Image wins Sony World Photography Awards, then author refuses the award and confesses

<https://petapixel.com/2023/04/20/an-ai-image-winning-a-major-photo-award-has-opened-the-worlds-eyes/>



Reported in Digital Camera magazine

<https://www.digitalcameraworld.com/news/did-this-camera-just-make-nd-and-grad-filters-extinct-meet-the-om-1-mark-ii>

January 30th
2024

Olympus announces ND Grad filter in
their new

<https://cdn.jwplayer.com/previews/1BEv-w65M>



How AI is now built into many cameras

- 1. Subject Detection Autofocus:** Cameras like the **Canon EOS R3** use deep learning to power subject-detection autofocus. [This system is trained with a vast pool of images to recognize and track various subjects such as humans, animals, and vehicles¹.](#)
- 2. Auto Tracking:** The **Sony ZV-E1** features AI-powered Auto Tracking, which is distinct from subject tracking autofocus. [It helps in maintaining focus on the subject during video recording¹.](#)
- 3. Scene Optimization:** AI-powered digital cameras analyze the scene and automatically adjust settings like exposure, focus, white balance, and ISO sensitivity for optimal photo quality. [Specific models were not mentioned in the search results, but this technology is becoming common in newer cameras².](#)
- 4. Computational Photography:** Smartphone cameras are using AI for real-time image enhancements, known as computational photography. [This includes features like bokeh effects, night mode, and object recognition³.](#)

Try these out

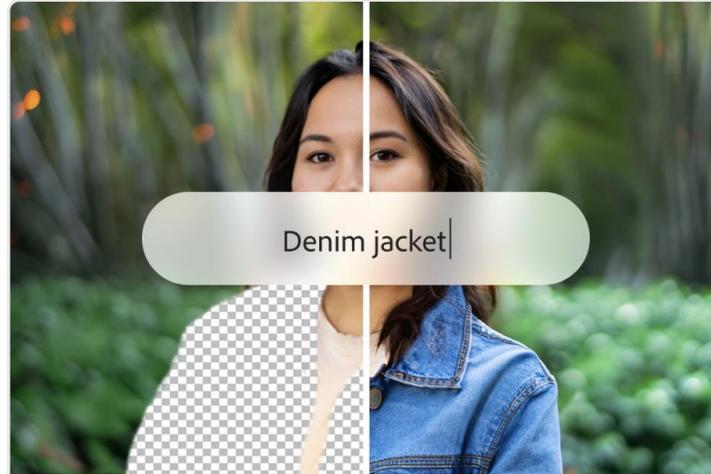
Experiment with the latest in generative AI and let us know what you think.



Text to image

Generate images from a detailed text description.

Generate



Denim jacket

Generative fill

Use a brush to remove objects, or paint in new ones from text descriptions

Generate



Text effects

Apply styles or textures to text with a text prompt.

Generate



Adobe Firefly - <https://firefly.adobe.com/>



What can AI do?

- Released in Dec 2023, Microsoft's Co-Pilot <https://copilot.microsoft.com/> gives free access to ChatGPT4 + Dall-E to create images
- Create images – check out [Generated Humans](#), [Dall-E](#), [Leonardo AI](#), [Midjourney](#)...
- Analyse and edit images – sometimes automatically - [Imagen](#).
- Identify and categorize different elements of a scene – [Lightroom](#).
- Apply “looks” across many images at a time, adjusting settings for each individual image - [Lightroom](#).

CANVA

Home File **Resize & Magic Switch** Untitled design - 8in x 5in + Share

Design
Elements
Text
Brand
Uploads
Draw
Projects
Apps
Photos

Search uploads

Upload files

Record yourself

Images Videos Audio

Position

+ Add page

Notes Page 1 / 1 93%

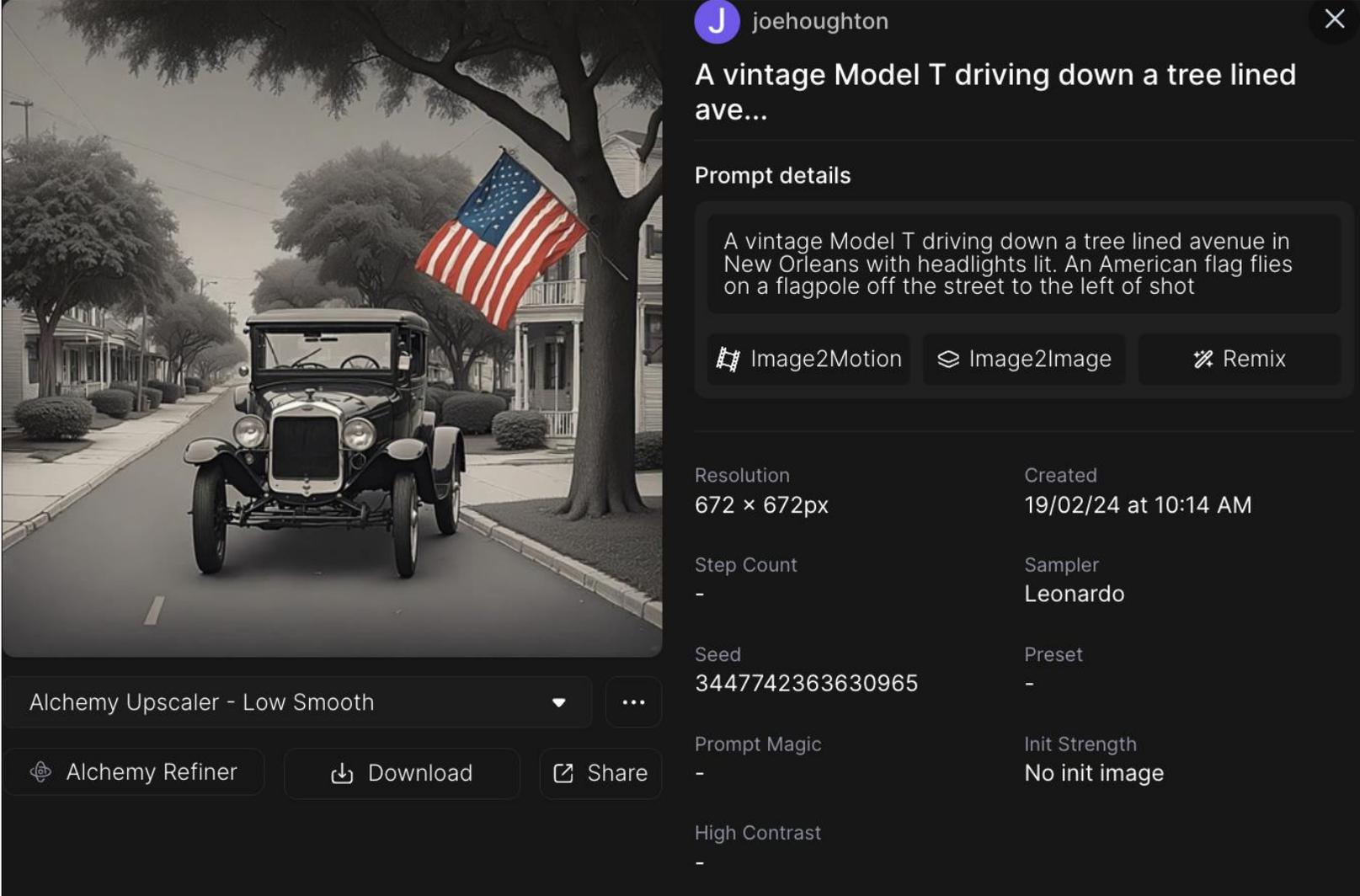
Photoshop Generative Fill

The new generative fill in Photoshop lets you add and amend images by selecting an area of your image then typing a text prompt to generate new content – let's edit **Bird on a branch...**



Leonardo.AI

- I have a monthly subscription to this one
- It's powerful, easy and fun!
- Check out the real-time generation of images that update as you type new words at <https://app.leonardo.ai/realtime-gen>



J joehoughton

A vintage Model T driving down a tree lined ave...

Prompt details

A vintage Model T driving down a tree lined avenue in New Orleans with headlights lit. An American flag flies on a flagpole off the street to the left of shot

Image2Motion Image2Image Remix

Resolution 672 × 672px Created 19/02/24 at 10:14 AM

Step Count - Sampler Leonardo

Seed 3447742363630965 Preset -

Prompt Magic - Init Strength No init image

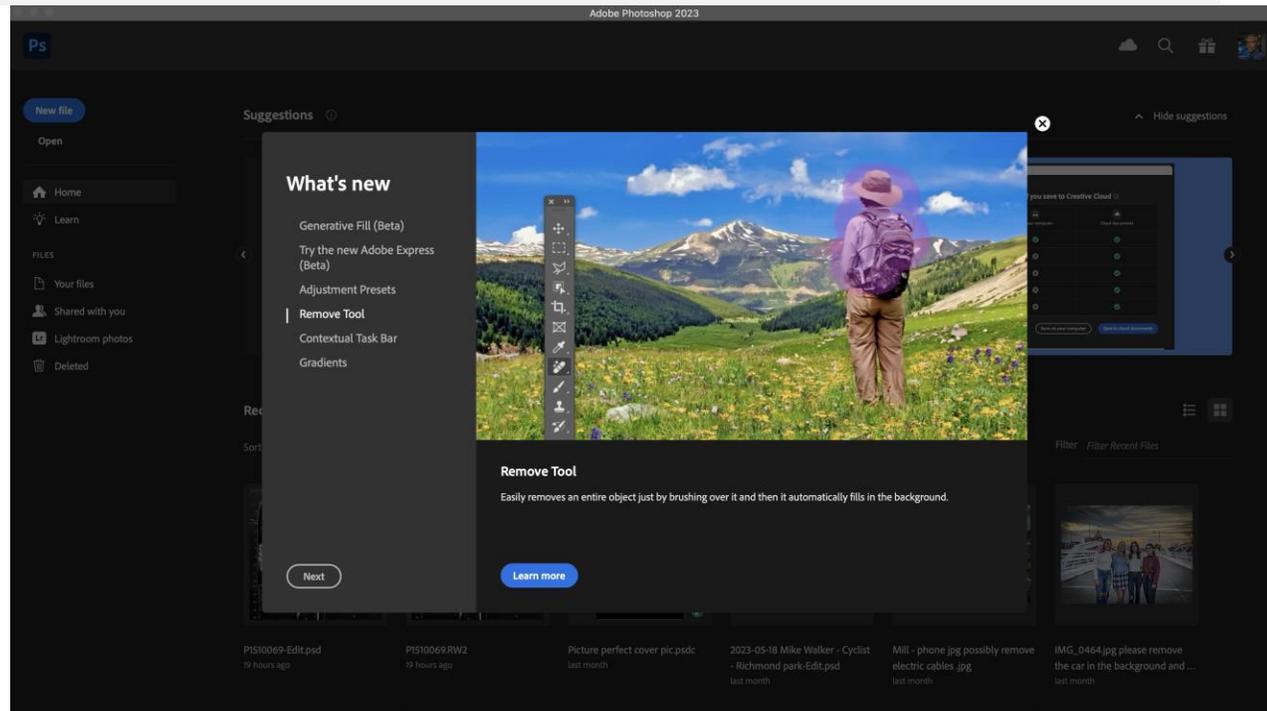
High Contrast -

Alchemy Upscaler - Low Smooth

Alchemy Refiner Download Share

What can AI do?

- Remove backgrounds from images ([Hotpot](#) (Chaffinches))
- Improve the quality of images – either guided by human intervention – almost all current AI apps, or automatically – like Topaz Photo AI.
- Add lighting to images – Portrait Pro (Grace headshot)
- Add and remove elements from images – think content aware fill in Photoshop
- Did you know Photoshop can also now auto-mask every element in an image in 1 click? (, Turn on Object selection (W), make sure Object Finder is checked, then Layer/Mask all objects)



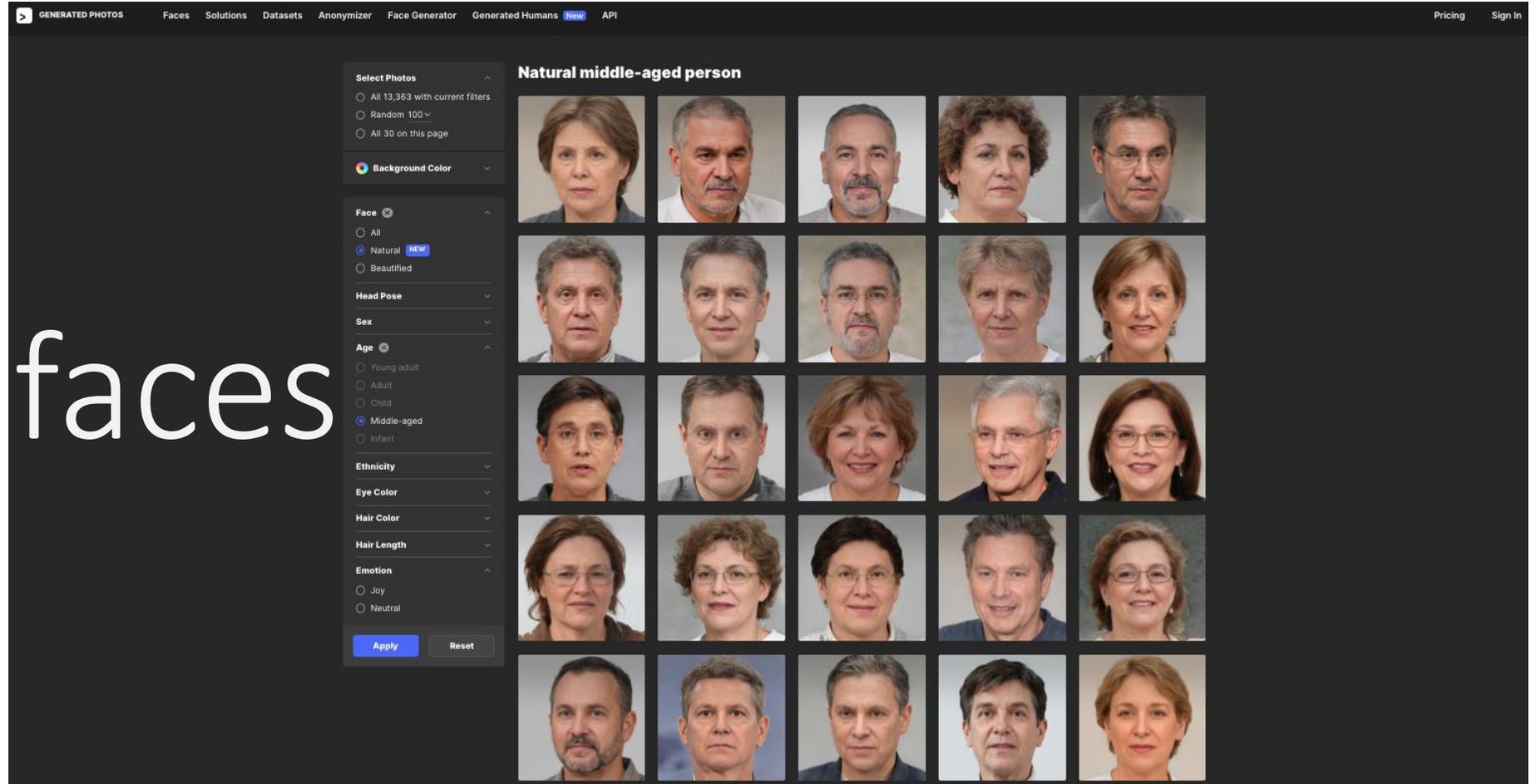


What can AI do?



- Improve shadows and highlights – any app’s “Auto” setting button.
- A powerful suite of image & video tools - [RUNWAY](#)
- Optimise image compression – such as creating smaller JPG files – [Compress Now](#), [JPEG Optimiser](#).
- Upscaling images and adding detail that wasn’t in the original – Topaz Gigapixel
- Colourise and repair old torn photos – Photoshop Neural Filters (Grandad)

Design faces



<https://generated.photos/faces/natural/elderly>



Masks

+ Create New Mask

- Hair
- Teeth
- Lips
- Iris & pupil
- Eye whites
- Eyebrows
- Body skin**
- Face Skin

Show Overlay

Histogram

Original Photo

Select People Invert

Effect: Custom

Amount 100

Temp 0

Tint 0

Exposure -0.80

Contrast 0

Highlights 0

Shadows 0

Whites 0

Blacks 0

Texture 0

Clarity 0

Dehaze 0

Hue 0.0

Use Fine Adjustment

Saturation 0

Sharpness 0

Noise 0

Moiré 0

Defringe 0

Color

AI masking in Lightroom

Try on glasses as if you were in the shop

<https://luna.io/virtual-try-on/>

https://demo.luna.io/pages/perfect-pair-post

For You

powered by luna.

Tommy Hilfiger
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ADD TO CART

FRAME VIEW TRY-ON-VIEW

< [Thumbnail] [Sunglasses] [Side View] [Top View] >

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Your turn...

- We're going to break-out room in 5's to discuss the following question:

How do we think AI will impact us as club photographers within the next 10 years

- 15 minutes to discuss, then come back and share!