

iToBOS

Melanoma, Art & AI

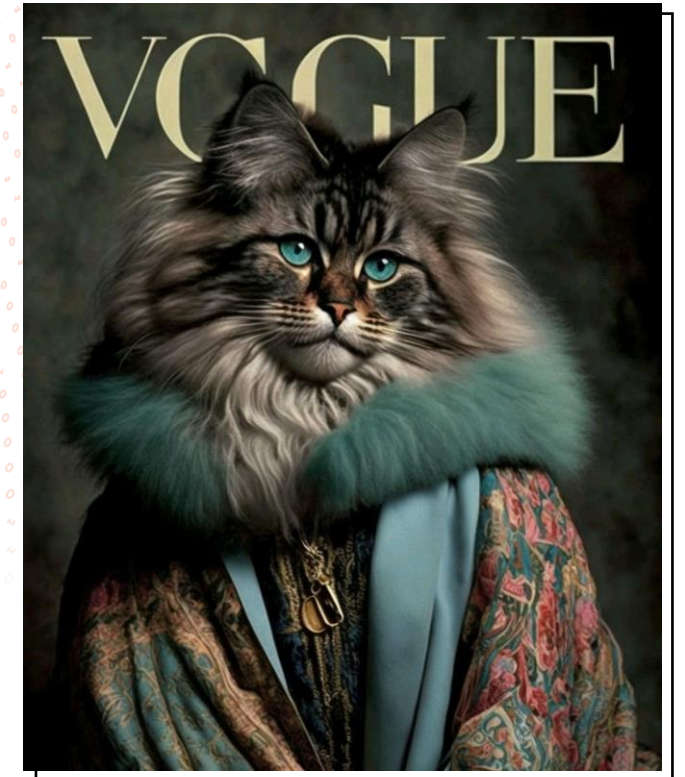
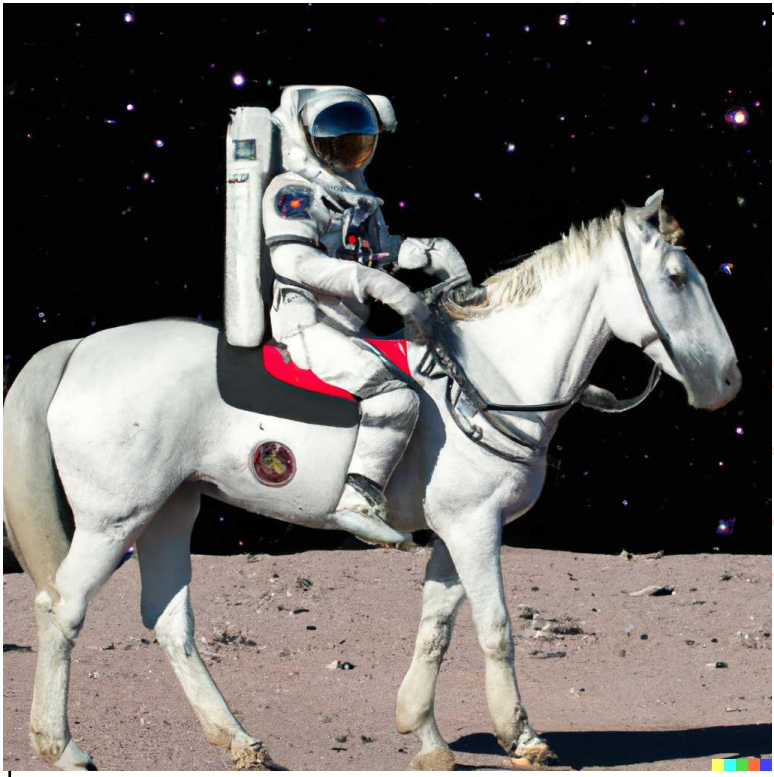
Hannover Centre for Optical Technologies

Lennart Jütte

Martin Steven, Ning Wang & Bernhard Roth

Generative Artificial Intelligence.

- April 2022: DALL-E 2.0 Text-To-Image (OpenAI)



Revolution?

Seems like AI will be more **devastating to jobs** than the industrial **revolution**.



Raphael St. James

Is it just me or are the diffusion-based image generators getting **monotonous and tiring**? We swooned the first time we saw an astronaut on a cow on the moon. Then we collectively gasped when the Pope wore that coat. Then Elon wore the same coat. Then after a few hours of tinkering with Mid Journey, we all learned our output has the **same look and feel**, the same design language, if you will, as everyone else's.



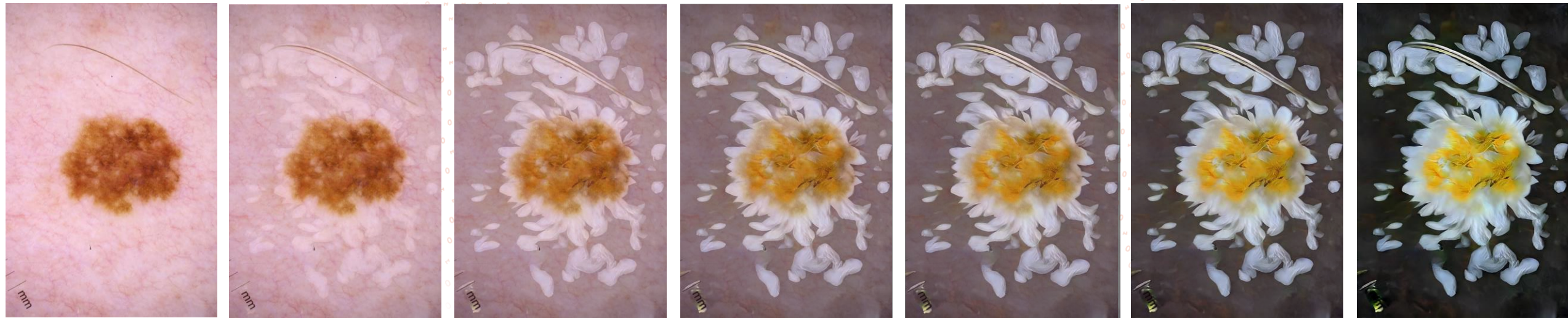
Sayam Khan

No more unicorns/astronauts/popes.

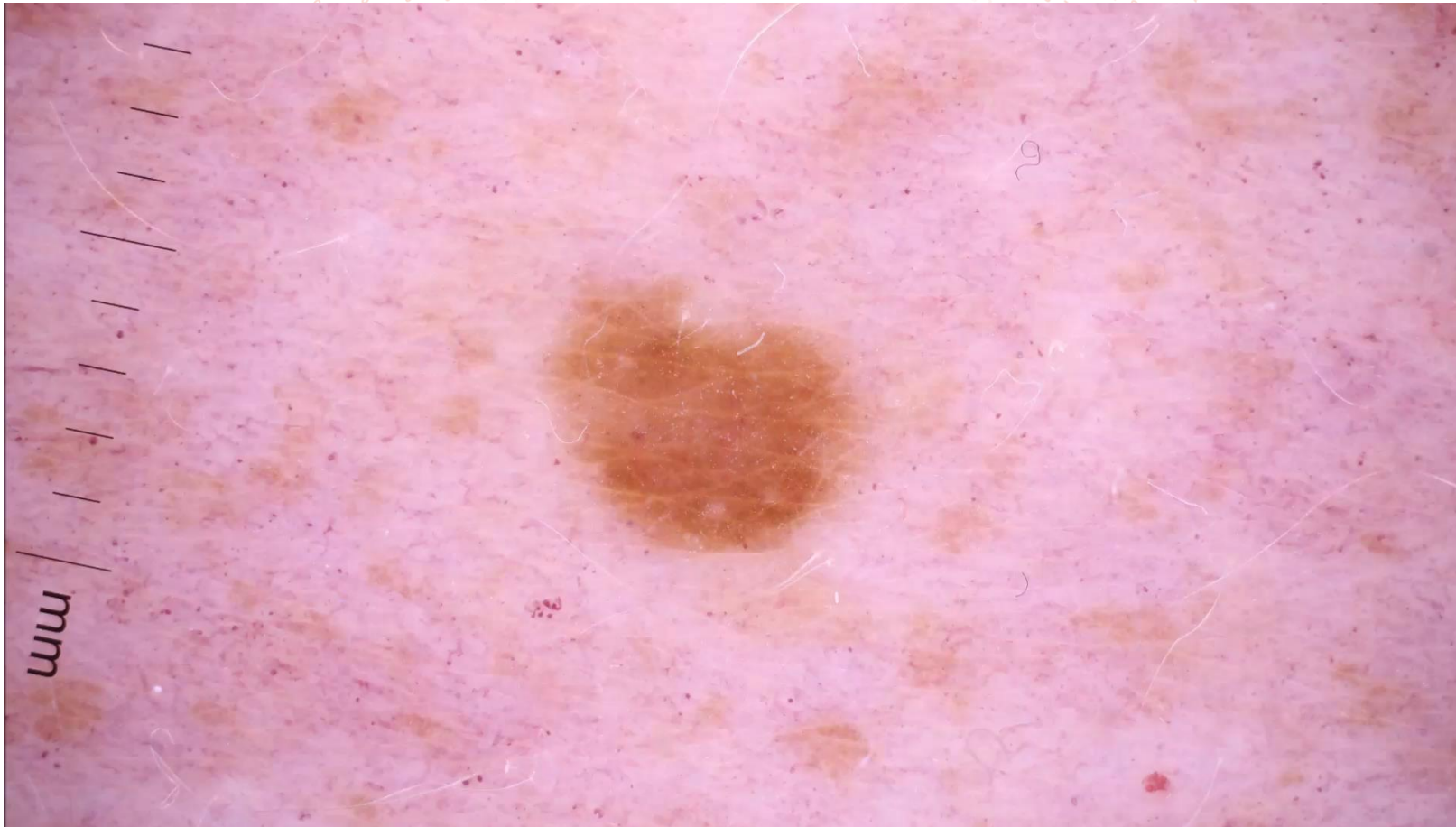
- The internet produced a cool Pope but that's not much useful
- What's in Generative AI for Melanoma patients?
- Can we turn dermoscopic images into something else?
- Something for art therapy maybe?
- Goodbye, Francis!



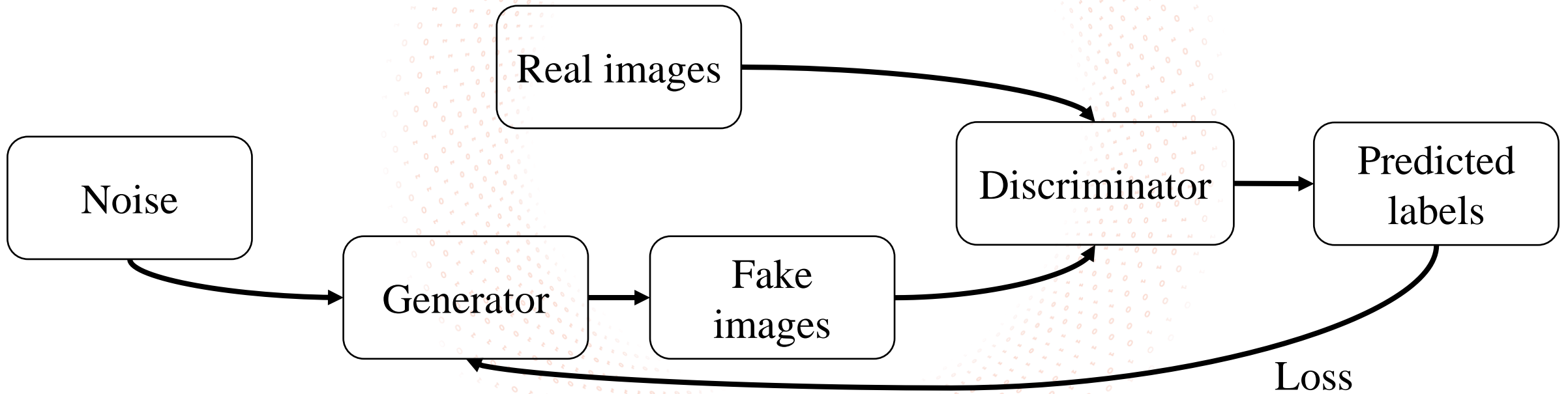
Personalized Art Therapy.



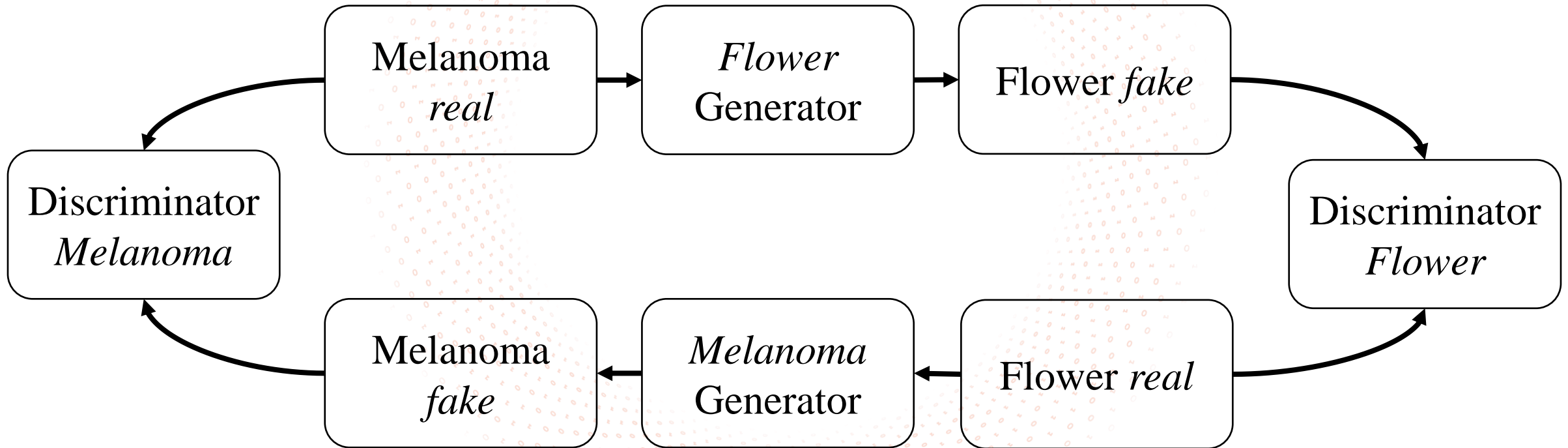
Melasome.



Generative Adversarial Network (GAN).



Cycle-GAN.



Mhm... Can you explain that with memes?

Generator 1: Here, a fake flower!



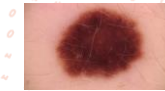
Discriminator 1: Is this a flower?



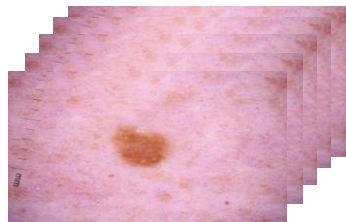
Real flower dataset



Discriminator 2: Is this a melanoma?



Generator 2: Here, a fake melanoma!



Real melanoma dataset



Your personalized artwork awaits.

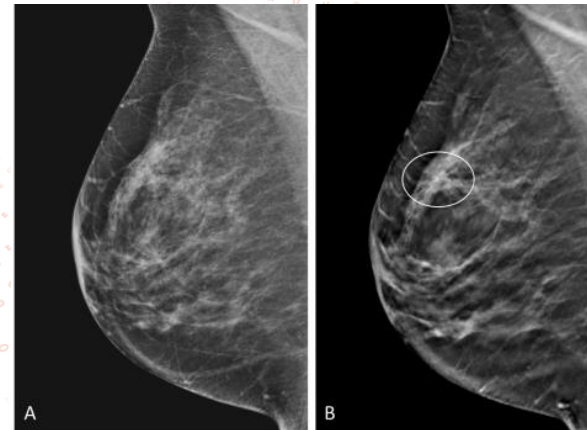
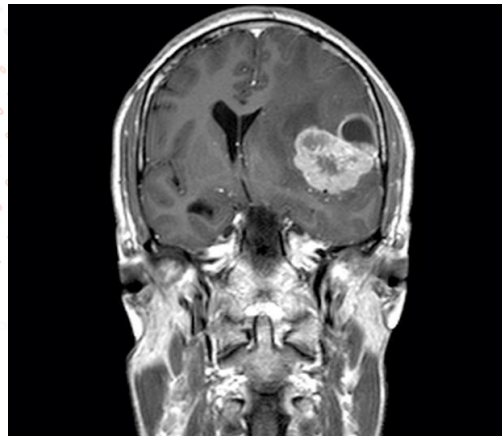
- How to get your own: www.melasome.com (for free!)
- 1st survey
- Upload your dermoscopic image
- Receive the result via email
- 2nd survey
- Effects on mental health?

Please take part & share! Your feedback is the only way to improve this project.



Outlook.

- Study effects on mental health
- Immersive videos
- Augmented reality
- Skin diseases: Scars, non-melanoma, histopathology, ...
- Other cancers: Lung, brain, breast, ...





"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 965221"

Thank you

iToBOS



Lennart.juette@hot.uni-hannover.de

www.melasome.com

