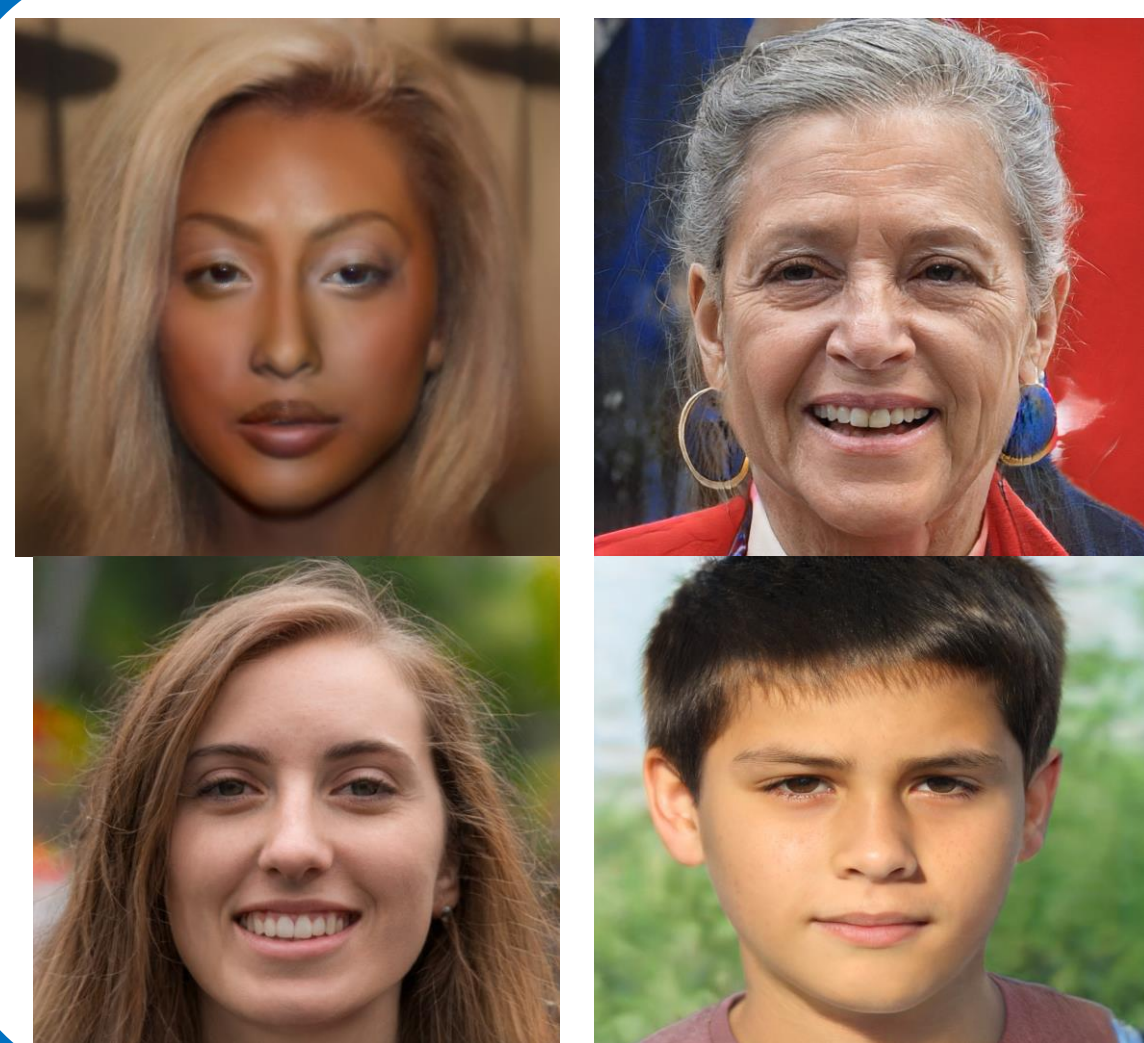


Project 2

Dimosthenis Angelis(s212893) Dimitrios Bokos(S213233) Panagiotis Grigoriadis(s203269) Nikolaos Karavasilis(s213685)

Random images from a pre-trained GAN

- StyleGAN2-ADA pretrained with the FFHQ dataset



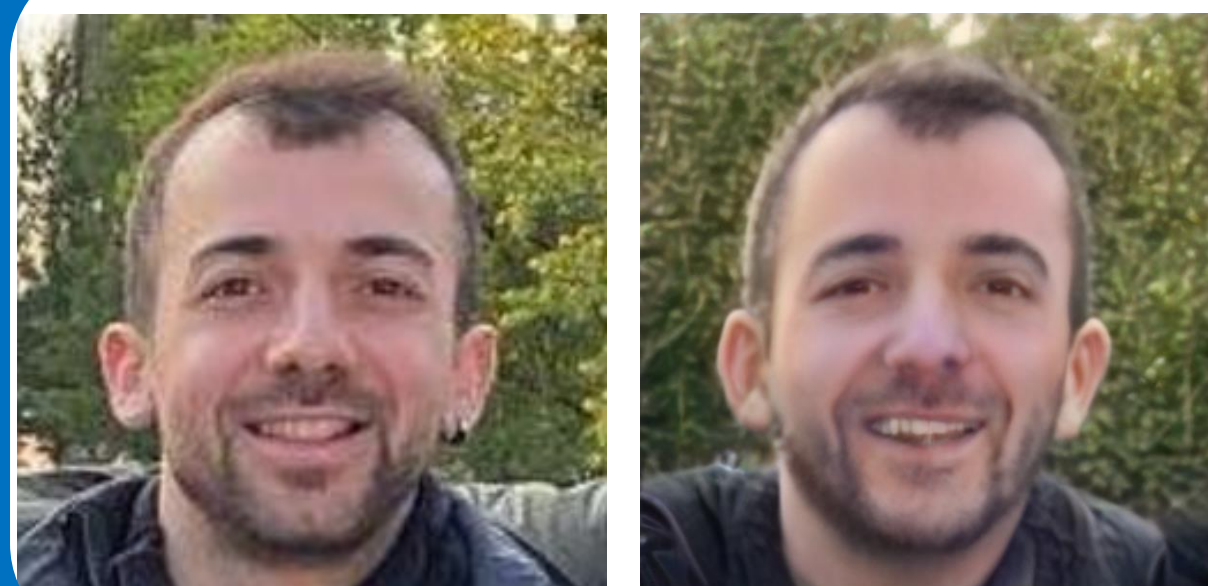
Reconstructed our own



Image alignment was **critical** for the reconstruction

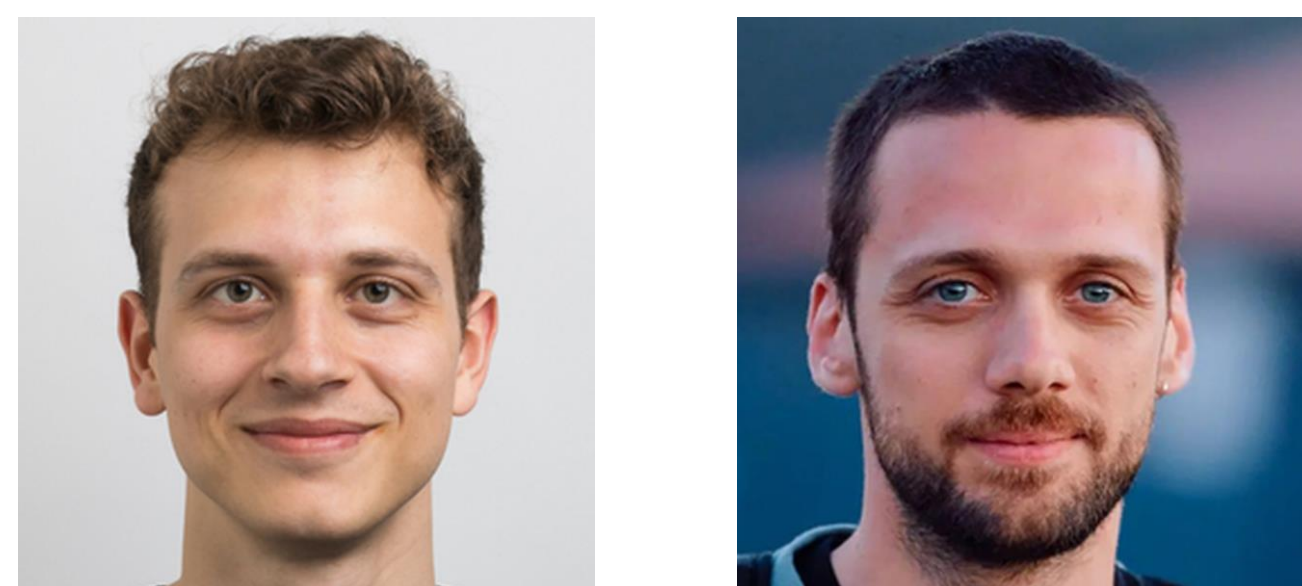
- *White background*
- *Round faces*
- *Close images*

Were the ones that worked more effectively

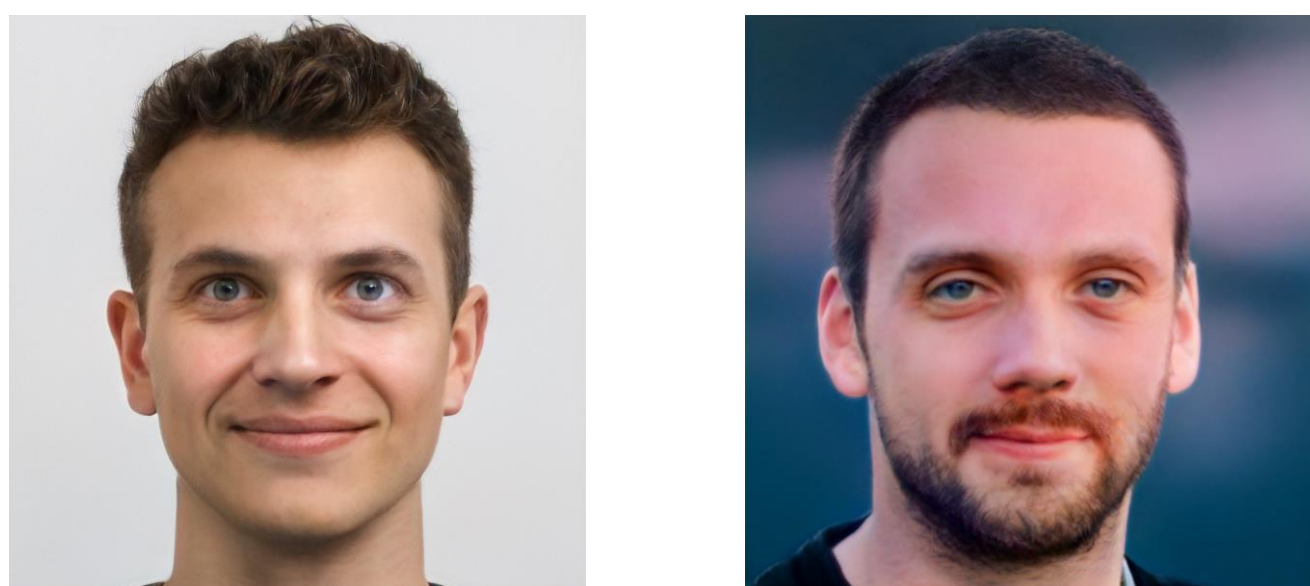


Interpolation between two real images

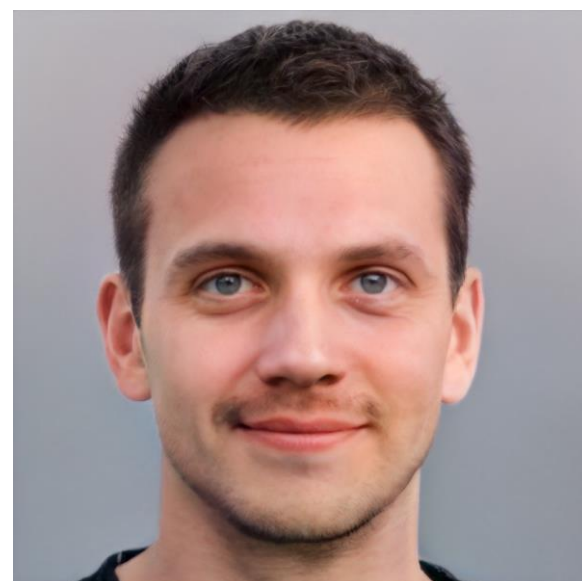
Real images



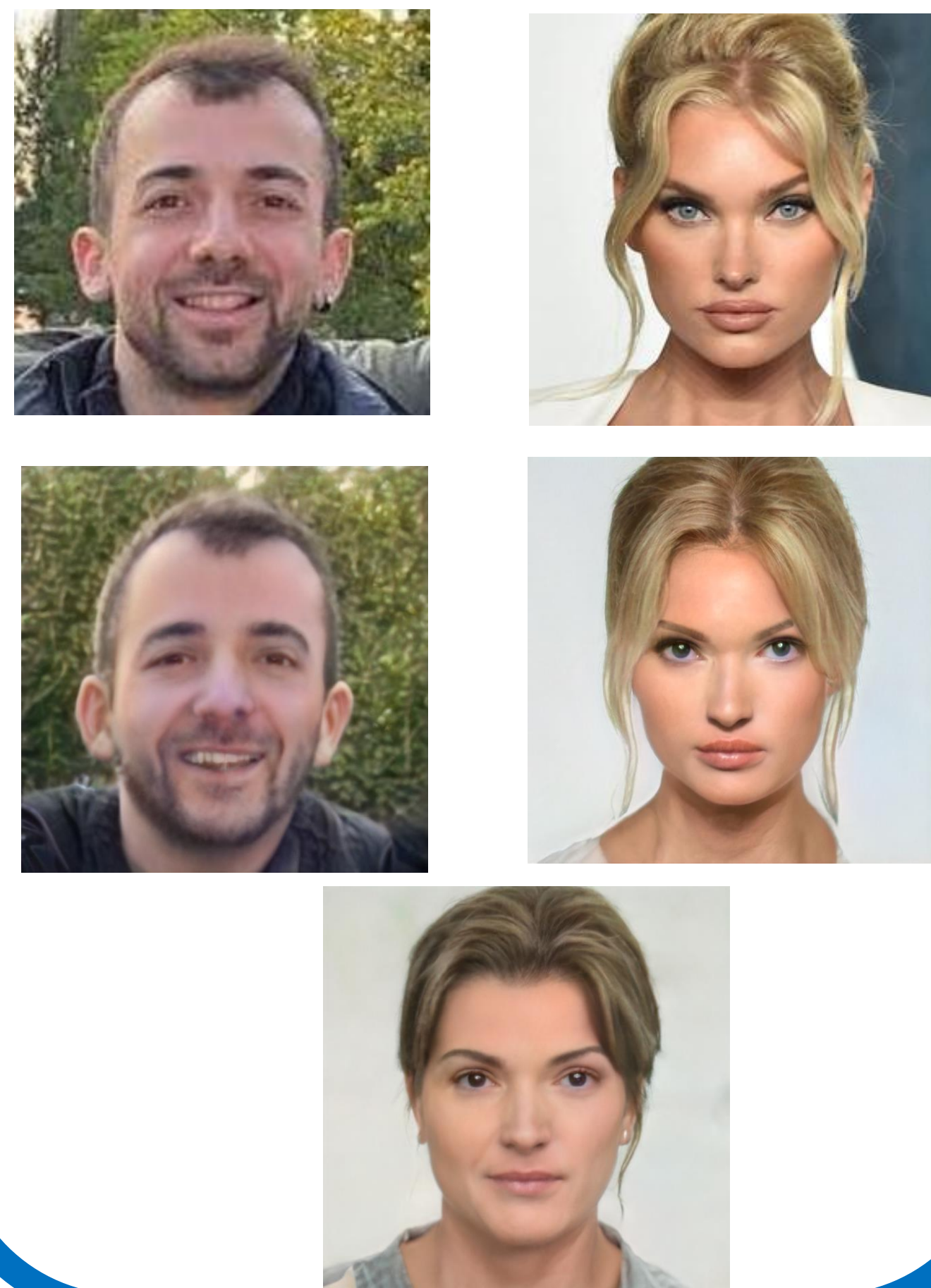
Projection of images from latent space



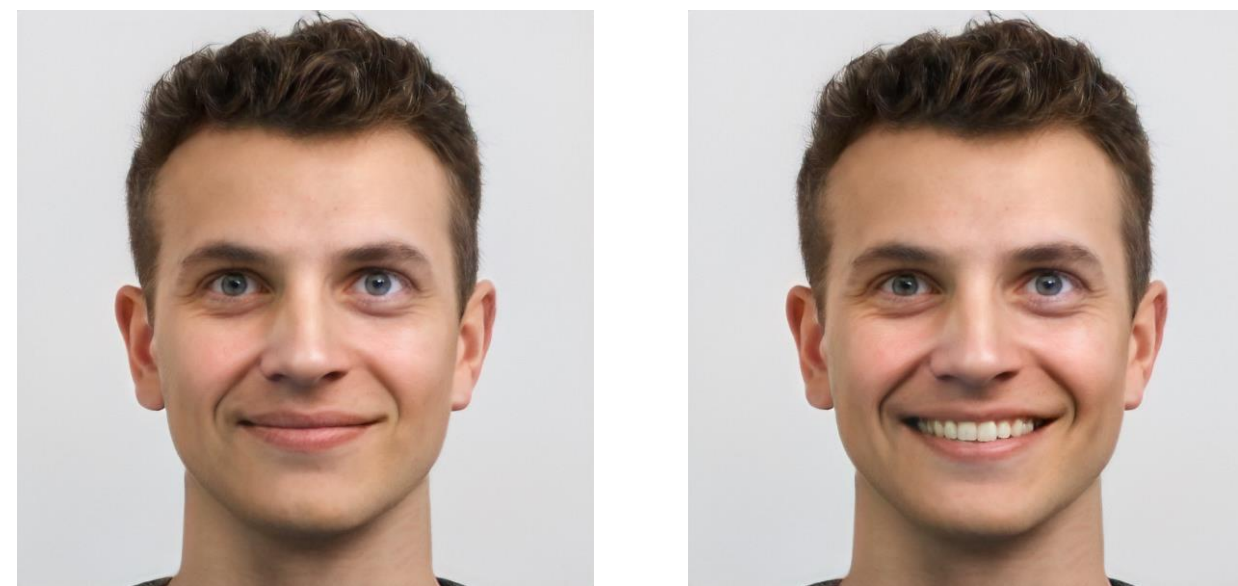
Projection of combination of latent spaces (50% each)



Different combination of latent space with more different feature



Latent directions



Smile latent direction was surprisingly effective and funny

Train own latent directions with SVM

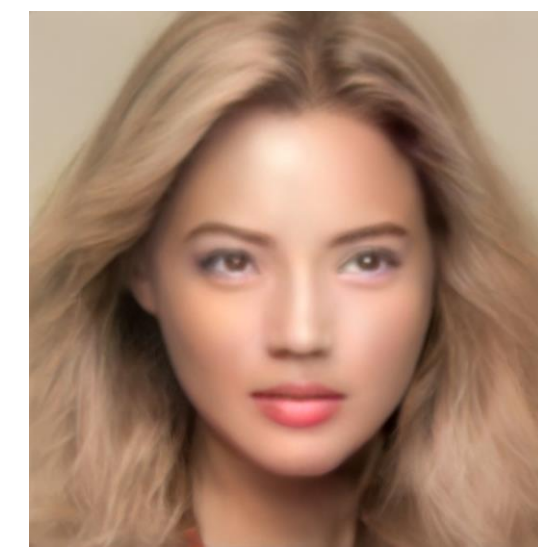
Steps performed:

1. Dataset collection: 20 images of blonde women, 20 images of brunette women
2. Image alignment and resizing
3. Learn latent codes of every image
4. Trained a linear SVM to learn the latent directions (Score: 100%)
5. Applied latent directions to change hair color

Real images



Generated images



Problems:

1. Small dataset
2. Many features at the latent space
3. Latent directions do not show just the hair color

CLIP (ART)

A KNIGHT SQUIRREL



A SATYR PLAYING THE BANJO (psychedelic, weird:0,2)



A DJ PLAYING FOR TOMATOES (weird:0.5)



- The initial latent code changed the loss and the results
- By changing parameters the loss and result changed (different optimization)