VAE:

* Works for images, not for masks
* Try to implement a lot to get images, however we are getting masks
* Yesterday: try to validate in another way to get images but didn’t work
* Giulia: tried to changed background of it to images, but now it is generating something else. Now just white images.
  + 25 epochs
  + Only white images
* Input: regular mr image
* Spade block to put into black-white binary mask
* Spade usually used in gan structures, not in vae only.
* Shape is preserved, but lars thinks the structure really needs a gan to get a real image
  + Because it takes the mask it will take the mask back, does not take back the mr images
  + Need gan to feedback that the images are wrong
  + We need to add the discriminator, the vae is the generator in this case
* Loss:
  + For encoder, decoder, discriminator
  + Define different loss functions
  + Dis en gen fake, dis real loss: BCE loss
  + Some extra loss component: for instance kld for encoder, for discriminator lars doesn’t know 🡪 see tensorflow source
* Add discriminator & train it

Back-up:

* Data augmentation for the images by applying the same as we did to the masks
* Work out what we wanted to do, better to discuss what went wrong.
  + Share some results what comes out, even if that’s very bad
  + What are reasons why it didn’t work
  + Explain whole method as what we wanted to do
  + Methods is more important than results in this case!

Code

* All online?
* Lars will upload code from VAE GAN
* Keep the images from VAE
* Don’t have anything after Saturday: train a lot on Sunday so we at least have those results
* Giulia: will remove things from her code

Thursday: Esmée and Marissa

Friday: Paula and Esmée (afternoon), Giulia

This weekend: Marissa

Report

* See file Marissa.

Next week

* They will analyze our data. Do we need to convert it into 3D?
  + Mail Josien Pluim to ask 🡪 Marissa will send an email
  + What type of format they want
* On Monday 9:00 the evaluation data becomes available
* Keep the Monday a bit free so we can work on it
* Work on Wednesday 9:00 with who can

Opletten bij de code

* Discriminator staat erin
  + Let op met dimensions
  + X.view, daarmee veranderen
* Weights opslaan van gen, dis, encoder
* Logvar
  + Hoe is die gedefinieerd?
* Vae train van cian?
  + Github
  + Die kun je ook even bekijken
* Vae gan : img en seg als label hebben!
* Loss goed definiëren
* Na loss, optimizer updaten
* Optimizer step is standaard
* Dit is nog niet volledig
  + Loss nog toevoegen
  + Na loss optimizer zero grad en daarna backward en step
  + Prediction, fake image, loss, daarna optimizer updaten
  + Alles saven (savemodels functie)
* Error?
  + Print size! Kijken waar het niet klopt
* Tensorboard
  + Om wat images te bekijken
  + Wordt een mapje aangemaakt in je path waarop het opgeslagen wordt