Meeting 28-03

# Statistical analysis

t-test is more than enough to compare both methods. T-test makes some assumptions (data normality and variance), Raquel checked this and it was normal distributed but not equal in variance.

Another test(welch-t-test),

## Comments on report

Raquel added questions.

# SPADE

Seemed to work, only black images appeared. 🡪 We will start with plan B (segmentation for U-net)

# VAE (solve black images)

Christos added an if-statement, if there was a zero value, than it wasn’t included. However, there were no black images, so next step is to run it for 200 times and see if it works.

Noortje tried different loss functions, cross\_validation leads to all black images. Others worked fine, but still generated black images.

* Look into how to improve the quality of the images (Funmilayo already has a link)

# Generate diverse images

Style-VAE, nowhere done on medical images.

Multiple-generaters: not doable

Create a more diverse input dataset, than the output images are also more diverse

* Create diverse input dataset

# U-Net report

Binary-cross-entropy equation, they use a python function. However, Christos cannot find an equation 🡪 no need to include those in the report

# Tasks Lotte

Method registration part

Combined code of registration

Understands VAE

# Next meeting

Noortje: Look if method Christos is working

Funmilayo & Raquel: Look at diverse input data

Milan & Lotte: Look at resolution improvement of generated images (look at slides)

Raquel: Train u-net, with original data to segment the generated images

* If it doesn’t work well, we use registration

Look into literature on the downsides of

Noortje: report of VAE

Meeting Thursday 15:00

# Next meeting: (Tuesday 9:00 online)

* Raquel: Statistical analysis, discussion about the affine transformation
* Noortje & Milan: look at SPADE
* Noortje & Christos: VAE discussion and try to fix it
* Funmilayo: look into how to generate diverse images
* Christos: write part about U-net findings in the report
* Lotte: understand VAE and look for improvements on the VAE + write discussion about the results of the registration + combine registration codes