

Bachelor Thesis Update [04.04.2024]	
<b>Progress overview</b>	<ul style="list-style-type: none"> <li>- Created a Gantt to get overview of process.</li> <li>- Labeled ~250 dermatology images in 5 Classes: (blur, good quality, low resolution, poor lighting, far away)</li> <li>- Prepared the Fitzpatrick and SCIN dataset to fine-tune regressor.</li> <li>- First result of predictions made.</li> </ul>
<b>Accomplishments</b>	<ul style="list-style-type: none"> <li>- Prepared Mid-term presentation.</li> <li>- Prepared a custom dermatology dataset and finetuned the pretrained model ARNIQA.</li> <li>- First results!</li> </ul>
<b>Challenges</b> <ul style="list-style-type: none"> <li>○ [Planned measures]</li> </ul>	<ul style="list-style-type: none"> <li>- For finetuning I needed MOS or DMOS scores, where Fitzpatrick did not have. [SCIN dataset has dermatology confidence score, ranging from 1 to 5. I used that as an alternative to MOS. A single image could have multiple conditions so it can also have multiple confidence scores.]</li> <li>- Getting an even distribution of the confidence score was at first a little challenging. [Since I wanted a single score per image, I took the median of the scores and took the min or max of the scores depending on, if the score is &lt;2 or &gt;2. This was done deliberately so most of the scores were then evenly distributed at the extremes.]</li> <li>- SCIN dataset has 10'379 images. After preprocessing I am left with 6'503 images. Could be small for finetuning. [Getting more images!]</li> <li>- The first results were not very satisfying because the model makes mistakes! [look at the features that were extracted from the encoder model with a t-SNE plot or look at if the dermatology confidence score matches the image in SCIN.]</li> </ul>
<b>Next steps</b>	<ul style="list-style-type: none"> <li>- Depends on feedback from supervisor.</li> <li>- Focus on Mid-term presentation.</li> <li>- Look at different options to visualize the process. For example, with Grad-CAM, t-SNE or plot evaluation metrics.</li> <li>- Iteratively refine the model prediction.</li> <li>- Add notes to report.</li> </ul>
<b>Discussion points</b>	-
<b>Additional Notes</b>	- SCIN: <a href="https://github.com/google-research-datasets/scin">https://github.com/google-research-datasets/scin</a>
<b>Next meeting</b>	- 19. April 2024
<b>Attachments</b>	-