Thesis Project Timeline

Frederik Harder

June 2017

May

4

- set up framework for testing vgg16 and alexnet
- prepare layer by layer inversion approach

11

- create reconstructions for vgg and alexnet
- enable enable synchronous training of modules

18

- adapt code to allow stacking modules
- train deep module stacks

25

- work through and re-implement mahendran & vedaldi 2015
- test M&V model on vgg and reproduce alexnet results

June

1

- work through and re-implement mahendran & vedaldi 2016
- adapt framework to allow arbitrary losses and priors

8

- Research Sparse Coding and overcomplete ICA

15

- implement score matching ICA and overcomplete ICA models from Hyvärinen

22

- set up preprocessing for image (and feature map) patches
- train overcomplete ICA image prior

29

- test ICA prior with mahendran & vedaldi
- specify and approve second part of project schedule

July

6

- (travelling 1.7. - 9.7.)
- Writing: draft related works section
- Writing: draft methods section
- document results from network inversion and mahendran & vedaldi reproduction

13

- train ICA feature map priors
- set up field of experts image prior
- evaluate ICA results

20

- train field of experts based image and feature map priors
- set up and train DAE based image and feature map priors

27

- evaluate initial results of all approaches
- selected components visualization with priors
- empty noise image with priors

August

3

- activation maximization results with priors
- caricaturization results with priors

10

- Writing: update methods, update results
- Consider further optimization, potentially set up parameter exploration scheme
- Refine results

17

- Writing: Complete Methods
- Refine results

24

- Writing: Complete Results
- Run final results

31

- Writing: introduction, conclusion, formatting
- Hand in to reviewers

September

7

- Final edit
- Clean up code
- Hand in to examiners

21-28

- Defense