Unofficial template Master SSE Thesis

by

Studentname Middlename Lastname

GRADUATION REPORT

Submitted to
Hanze University of Applied Sciences Groningen

in partial fulfillment of the requirements
for the degree of

Master Smart Systems Engineering

Confidential document

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ABSTRACT

Insert your abstract here. Original Hanze format states one can use a maximum of 200 words. Though, it is advised is to discuss with your supervisor(s) if you need more.

Keywords: Keyword, Keyword, Keyword.

DECLARATION

I hereby certify that this report constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

I declare that the report describes original work that has not previously been presented for the award of any other degree of any institution.

Signed,

Replace this

Studentname Middlename Lastname

ACKNOWLEDGEMENTS

Here you have the opportunity to thank anyone. Acknowledgements should be in good taste and should not extend more than one page.

Contents

List of Tables

List of Figures

Chapter 1

Rationale

The first chapter of the Final Report should explain the rationale. It can be the same chapter as in your Master thesis definition, but you should incorporate any feedback that was given to you by your first graduation supervisor and your company supervisor.

Chapter 2

Situational & Theoretical Analysis

This chapter in your final report can also be the same as in your master thesis definition, but should include all feedback that was given to you.

Chapter 3

Conceptual Model

In this chapter you must explain, using the information from the previous two chapters and critical thinking, the most likely solution to your problem definition (narrowing down the theories and research), resulting in a final theory and/or model. Under a conceptual model it is understood that: the author first investigates which factors play a role, and then provides argumentation for the identification of the most important ones. This chapter is basically a summary of chapter 2 and should be roughly 1 page long.

Chapter 4

Research design

The Research Design chapter contains everything that you have done in order to answer your research question. Write and state things in such a way that somebody can repeat your research and arrive at the exact same results. You can use the chapter in your master thesis definition as a start, but generally, research designs end up differently from what you intended to do in the first place. A special remark: it should be written in the PAST TENSE, since you now have already done it.

Note, the following content are some examples of techniques that one can use. Read the comments for explanations.

4.1 Methodology

A list of requirements has been defined to guide the project, a general and detailed design were developed and implemented to support the investigation of the research question.

4.1.1 Requirements

1. The Cobot safety features are enabled at all times.
2. The system architecture is ROS based.
3. The system works in simulation and real environment.
4. The training is done using RL techniques.
5. The algorithm is trained using self experience and memory replay.
6. The algorithm uses RGBD images to estimate the actions.

4.2 General Design

General design text. See table 4.1 on the following page.

Model name	Feature space	Est. total size (MB)	Top-5 error
AlexNet	256 x 6 x 6	242.03	20.91
SqueezeNet	512 x 13 x 13	76.54	19.58
Densenet	1024 x 7 x 7	325.21	7.83
GoogleNet	1024 x 7 x 7	85.91	10.47
MobileNet	1280 x 7 x 7	162.45	9.71
ResNeXt-50-32x4d	2048 x 7 x 7	415.72	6.30
MNASNet	1280 x 7 x 7	135.77	8.4

Table 4.1: This is the caption of the example table [1].

4.3   Detailed Design

Detailed design text. You don't have to follow this structure. Feel free to include, remove or change the titles of the sections.

An example of a table is shown in table 4.1. Moreover, an example of a figure is shown in figure 4.1. Always use the proper reference to cite tables and figures. Do not mention "table below" or "figure above", for example.

Figure 4.1: This is the caption of the example figure.

Chapter 5

Research Results

In the chapter discussing your research results you must provide all the results of your research in tables, graphs and figures format. Compare your results with the results found in literature or previous research and include all falsifications that you are aware of. Also comparisons must be made with the hypothesis you stated in the second chapter: are they correct? If so, why? If not, why not? This chapter should include all the information that came out of your research and it should include a critical interpretation of these results.

Chapter 6

Conclusions and Recommendations

The last chapter contains the conclusions and recommendations. All your conclusions should be a logical consequence of the previous chapters that you have written and should provide answers to the research questions and problem definition posed in chapter 1, 2 and 3

Chapter 7

Additional Chapters

If you want, you can add additional chapters to your final report. Keep in mind that the mentioned chapters should at least be present and the main text (excluding title page, table of contents, references and appendices) of the final report should not be more than 15000 words.

Note, if you need more words, please discuss with your supervisor(s).

References

[1] *torchvision.models — PyTorch 1.7.0 documentation*. [Online]. Available: `https://pytorch.org/docs/stable/torchvision/models.html` (visited on 01/01/2021).

Appendix

You are encouraged to put in appendices in your final report. In an appendix you can include things such as large tables or background information. Anything that is useful to know for the reader, but prevents the reader to read your main text in a fluent manner. Each appendix should have a number and a self-explanatory title.