

RUHR-UNIVERSITÄT BOCHUM

My awesome Master thesis

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Chair for System Security.

1st Supervisor: Prof. Dr. Thorsten Holz
2nd Supervisor: Prof. Dr. Someone Else
Advisor: Another Guy, Maybe Another

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Abstract

When should I write the abstract? Do it at the very end of your thesis. Your thesis will first ask and then answer some research questions and you need to know these answers before you can start writing the abstract. It should cover your entire work, beginning with the context and motivation, continuing with the scientific task that you worked on, and finishing with the general steps and most important results. Some important questions are:

- Motivation: Why do we need your results?
- Problem statement: What problem are you trying to solve?
- Approach: How did you go about solving or making progress on the problem?
- Results: What's the answer?
- Conclusion: What are the implications of your answer?

The abstract is a way to provide the reader with the most important information of your work. In combination with the conclusion it should be sufficient to understand the whole case from motivation til result. Even though it's just a short paragraph, take good care of this part as it helps you to make a good first impression with your thesis (or a bad one).

1 Introduction

Always start a chapter with a short but informative text about the following sections. Point out the relevance of the sections and create interconnections between them. Never ever just write a single sentence here. Furthermore, you are strongly advised to respect the hints given in this template.

1.1 Motivation

What is your motivation to deal with this subject? Which interesting problems do you expect?

Do not abbreviate “e.g.” within a sentence, always write “for example”. However, within in parentheses you are allowed to abbreviate and use, e.g. and, i.e. as shown here: with a comma right before and after it.

In addition to that, ensure correct spacing by using `\n\n` in between.

1.2 Related Work

List related work *and* the result of this work! What is the relevance of this work concerning your thesis? If necessary, *emphasize* some words in your text, for example words like *not* or *and* are sometimes crucial for understanding.

1.3 Contribution

What is your contribution?

1.4 Organization of this Thesis

Please give a general overview on how your thesis is divided into sections and chapters...

2 Literature review, with maths

2.1 Introduction

This is the introduction. Duis in neque felis. In hac habitasse platea dictumst. Cras eget rutrum elit. Pellentesque tristique venenatis pellentesque. Cras eu dignissim quam, vel sodales felis. Vestibulum efficitur justo a nibh cursus eleifend. Integer ultrices lorem at nunc efficitur lobortis.

2.2 The middle

This is the literature review. Nullam quam odio, volutpat ac ornare quis, vestibulum nec nulla. Aenean nec dapibus in mL/min⁻¹. Mathematical formula can be inserted using Latex and can be automatically numbered:

$$f(x) = ax^3 + bx^2 + cx + d \quad \{\#eq:my_equation\}$$

Nunc eleifend, ex a luctus porttitor, felis ex suscipit tellus, ut sollicitudin sapien purus in libero. Nulla blandit eget urna vel tempus. Praesent fringilla dui sapien, sit amet egestas leo sollicitudin at.

Later on in the text, you can reference Equation $\{@eq:my_equation\}$ and its mind-blowing ramifications. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Sed faucibus pulvinar volutpat. Ut semper fringilla erat non dapibus. Nunc vitae felis eget purus placerat finibus laoreet ut nibh.

2.3 A complicated math equation

The following raw text in markdown behind Equation $\{@eq:my_complicated_equation\}$ shows that you can fall back on \LaTeX if it is more convenient for you. Note that this will only be rendered in `thesis.pdf`

$$\hat{\theta}_g = \operatorname{argmin}_{\theta_g} \left\{ - \sum_{n=1}^N \left(1 - \mathbb{1}[f(\mathbf{x}^{(n)})] \right) \log f(\mathbf{x}^{(n)} + g(\mathbf{x}^{(n)}; \theta_g)) + \lambda |g(\mathbf{x}^{(n)}; \theta_g)|_2 \right\},$$

{#eq:my_complicated_equation}

2.4 Conclusion

This is the conclusion. Donec pulvinar molestie urna eu faucibus. In tristique ut neque vel eleifend. Morbi ut massa vitae diam gravida iaculis. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

- first item in the list
- second item in the list
- third item in the list

3 First research study, with code

3.1 Introduction

This is the introduction. Nam mollis congue tortor, sit amet convallis tortor mollis eget. Fusce viverra ut magna eu sagittis. Vestibulum at ultrices sapien, at elementum urna. Nam a blandit leo, non lobortis quam. Aliquam feugiat turpis vitae tincidunt ultricies. Mauris ullamcorper pellentesque nisl, vel molestie lorem viverra at.

3.2 Method

Suspendisse iaculis in lacus ut dignissim. Cras dignissim dictum eleifend. Suspendisse potenti. Suspendisse et nisi suscipit, vestibulum est at, maximus sapien. Sed ut diam tortor.

3.2.1 Subsection 1 with example code block

This is the first part of the methodology. Cras porta dui a dolor tincidunt placerat. Cras scelerisque sem et malesuada vestibulum. Vivamus faucibus ligula ac sodales consectetur. Aliquam vel tristique nisl. Aliquam erat volutpat. Pellentesque iaculis enim sit amet posuere facilisis. Integer egestas quam sit amet nunc maximus, id bibendum ex blandit.

For syntax highlighting in code blocks, add three “” characters before and after a code block:

```
mood = 'happy'
if mood == 'happy':
    print("I am a happy robot")
```

3.2.2 Subsection 2

By running the code in +@sec:subsection-1-with-example-code-block, we solved AI completely. This is the second part of the methodology. Proin tincidunt odio non sem mollis tristique. Fusce pharetra accumsan volutpat. In nec mauris vel orci rutrum dapibus nec ac nibh. Praesent malesuada sagittis nulla, eget commodo mauris ultricies eget. Suspendisse iaculis finibus ligula.

3.3 Results

These are the results. Ut accumsan tempus aliquam. Sed massa ex, egestas non libero id, imperdiet scelerisque augue. Duis rutrum ultrices arcu et ultricies. Proin vel elit eu magna mattis vehicula. Sed ex erat, fringilla vel feugiat ut, fringilla non diam.

3.4 Discussion

This is the discussion. Duis ultrices tempor sem vitae convallis. Pellentesque lobortis risus ac nisi varius bibendum. Phasellus volutpat aliquam varius. Mauris vitae neque quis libero volutpat finibus. Nunc diam metus, imperdiet vitae leo sed, varius posuere orci.

3.5 Conclusion

This is the conclusion to the chapter. Praesent bibendum urna orci, a venenatis tellus venenatis at. Etiam ornare, est sed lacinia elementum, lectus diam tempor leo, sit amet elementum ex elit id ex. Ut ac viverra turpis. Quisque in nisl auctor, ornare dui ac, consequat tellus.

4 Research containing a table

4.1 Introduction

This is the introduction. Phasellus non purus id mauris aliquam rutrum vitae quis tellus. Maecenas rhoncus ligula nulla, fringilla placerat mi consectetur eu. Aenean nec metus ac est ornare posuere. Nunc ipsum lacus, gravida commodo turpis quis, rutrum eleifend erat. Pellentesque id lorem eget ante porta tincidunt nec nec tellus.

4.2 Method

Vivamus consectetur, velit in congue lobortis, massa massa lacinia urna, sollicitudin semper ipsum augue quis tortor. Donec quis nisl at arcu volutpat ultrices. Maecenas ex nibh, consequat ac blandit sit amet, molestie in odio. Morbi finibus libero et nisl dignissim, at ultricies ligula pulvinar.

4.2.1 Subsection 1

This is the first part of the methodology. Integer leo erat, commodo in lacus vel, egestas varius elit. Nulla eget magna quam. Nullam sollicitudin dolor ut ipsum varius tincidunt. Duis dignissim massa in ipsum accumsan imperdiet. Maecenas suscipit sapien sed dui pharetra blandit. Morbi fermentum est vel quam pretium maximus.

4.2.2 Subsection 2

This is the second part of the methodology. Nullam accumsan condimentum eros eu volutpat. Maecenas quis ligula tempor, interdum ante sit amet, aliquet sem. Fusce tellus massa, blandit id tempus at, cursus in tortor. Nunc nec volutpat ante. Phasellus dignissim ut lectus quis porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

4.3 Results

Table @tbl:random shows us how to add a table. Integer tincidunt sed nisl eget pellentesque. Mauris eleifend, nisl non lobortis fringilla, sapien eros aliquet orci, vitae pretium massa neque eu turpis. Pellentesque tincidunt aliquet volutpat. Ut ornare dui id ex sodales laoreet.

Tabelle 4.1: Important data for various land masses. {#tbl:random}

Landmass	% stuff	Number of Owls	Dolphins per Capita	How Many Foos	How Many Bars	Forbidden Float
North America	94%	20,028	17,465	12,084	20,659	1.71
Central America	91%	6564	6350	8,189	12,012	1.52
South America	86%	3902	4127	5,205	6,565	1.28
Africa	84%	2892	3175	3,862	4,248	1.1
Europe	92%	20,964	17,465	15,303	24,203	1.58
Asia	87%	6852	6350	8,255	11,688	1.47
Oceania	87%	4044	4127	5,540	6,972	1.28
Antarctica	83%	2964	3175	4,402	4,941	1.13

4.4 Discussion

This is the discussion. As we saw in Table @tbl:random, many things are true, and other things are not. Etiam sit amet mi eros. Donec vel nisi sed purus gravida fermentum at quis odio. Vestibulum quis nisl sit amet justo maximus molestie. Maecenas vitae arcu erat. Nulla facilisi. Nam pretium mauris eu enim porttitor, a mattis velit dictum. Nulla sit amet ligula non mauris volutpat fermentum quis vitae sapien.

4.5 Conclusion

This is the conclusion to the chapter. Nullam porta tortor id vehicula interdum. Quisque pharetra, neque ut accumsan suscipit, orci orci commodo tortor, ac finibus est turpis eget justo. Cras sodales nibh nec mauris laoreet iaculis. Morbi volutpat orci felis, id condimentum nulla suscipit eu. Fusce in turpis quis ligula tempus scelerisque eget quis odio. Vestibulum et dolor id erat lobortis ullamcorper quis at sem.

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