

TU Braunschweig



Master's Thesis

[The Title of the Thesis]

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[Month 13, 2014]

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[Surname], [Forename]:
[The Title of the Thesis]
Master's Thesis, TU Braunschweig, *[2014]*.

Abstract

Besides the title, the abstract is the most important part of your thesis, as most readers will only read title and abstract. Your goal is to advertise the rest of the thesis for potential readers. For that, you briefly explain what you are focusing on in the thesis. With a misleading abstract, you will miss interested readers and maybe even attract readers with wrong assumptions about your work which will stop reading soon. The abstract should describe the general area as well as the most interesting insights of the work. It is crucial to find the right level of abstraction and length. An abstract typically consists of one paragraph that is significantly shorter than the introduction.

Abstracts typically follow the same structure. You start by describing the research area as well as the general and the specific problem you are focusing on. Then, you outline how you approach the problem in terms of concepts and evaluations. Finally, you close with the most interesting insights that you gained and why they are relevant for the research area.

[...]

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1. Introduction

... to be continued ...

[...]

Goal of this Thesis

[...]

Structure of the Thesis

[...]

2. Background

[...]

3. Example Chapter

This chapter gives you some examples how to include graphics, create tables, or include code listings. But first, we start with a short description how you can efficiently cite in L^AT_EX. The following footnote shows you how to reference URLs and where this document is available online.¹

3.1 Citation

There are several types of literature. The most citations are workshop and conference papers. Please use the inproceedings-tag for those citations (e.g., [KAK09]). You should have short-hands for workshop and conference names to be sure the naming is consistent and uniform (see our BibTeX files how to do that).

Slightly different are articles published in journals (e.g., [KG06]). Make sure you that the volume and number-tags are present and that no inproceeding is tagged as article or vice versa.

You might want to take a look at the example BibTeX file to find out how to cite books [CE00], technical reports [KCH⁺90], websites [CDT09], PhD theses, or master theses [Beu03, Ros09].

3.2 Formulas

There are different types of mathematical environments to set formulas. The equation $E = m \cdot c^2$ is an inline formula. But you can also have formulas at a separate line (see Equation 3.1).

$$P = (\mathcal{A} \Rightarrow (\mathcal{B} \Leftrightarrow \mathcal{C}) \wedge (\mathcal{B} \Leftrightarrow \mathcal{D})) \wedge (\mathcal{B} \Rightarrow \mathcal{A}) \wedge (\mathcal{C} \Rightarrow \mathcal{A}) \wedge (\mathcal{D} \Rightarrow \mathcal{A}) \quad (3.1)$$

If you need multiple lines that are aligned to each other, you might want to use the following code.

¹<http://www.ovgu.de/tthuem>

GraphLibrary
 \wedge (GraphLibrary \Rightarrow Edges) \wedge (Edges \vee Algorithms \Rightarrow GraphLibrary)
 \wedge (Edges \Leftrightarrow Directed \vee Undirected) \wedge (\neg Directed \vee \neg Undirected)
 \wedge (Algorithms \Leftrightarrow Number \vee Cycle)
 \wedge (Cycle \Rightarrow Directed).

3.3 Graphics

In [Figure 3.1 on the next page](#), we give a small example how to insert and reference a figure.

3.4 Tables

[Table 3.1](#) shows the result of a simple tabular environment.

Group Type	Propositional Formula
And	$(P \Rightarrow C_{k_1} \wedge \dots \wedge C_{k_m}) \wedge (C_1 \vee \dots \vee C_n \Rightarrow P)$
Or	$P \Leftrightarrow C_1 \vee \dots \vee C_n$
Alternative	$(P \Leftrightarrow C_1 \vee \dots \vee C_n) \wedge \text{atmost1}(C_1, \dots, C_n)$

Table 3.1: Mapping a feature model to a propositional formula

3.5 Code Listings

In [Listing 3.1 on page 8](#), we give an example of a source code listing.



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```
1 class A extends Object {  
2     A() { super(); }  
3 }  
4 class B extends Object {  
5     B() { super(); }  
6 }  
7 class Pair extends Object {  
8     Object fst;  
9     Object snd;  
10    Pair(Object fst, Object snd) {  
11        super(); this.fst=fst; this.snd=snd;  
12    }  
13    Pair setfst(Object newfst) {  
14        return new Pair(newfst, this.snd);  
15    }  
16 }
```

Listing 3.1: Java source code

4. Tool Support

Most theses in computer science are accompanied by tool support written by the author of the thesis. Such tools enable an empirical evaluation or simply serve as a proof-of-concept. In particular, tools are typically not the ultimate goal in research, but often necessary to evaluate whether proposed concepts solve real problems. Hence, it is common to write about the tool in a dedicated chapter.

The tool chapter has several goals. For supervisors, it typically helps to estimate the implementation effort of a thesis and problems faced during development. For other students, the chapter serves as the documentation of the tool support. That is, students that extend the tool support will use this chapter to get an overview on the architecture and learn from failed attempts. As researchers are typically rather interested in concepts or evaluations, this dedicated chapter on tool support helps to remove clutter from other chapters. Nevertheless, researchers may be interested to read why tool support has been build the way it is and why it is build on certain existing tools or libraries. Write the chapter such that it useful for researchers, students, and supervisors.

[...]

5. Evaluation

[...]

6. Related Work

[...]

7. Conclusion and Future Work

[...]

A. Appendix

[...]

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Hiermit erkläre ich, dass ich die vorliegende Arbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel verwendet habe.

Braunschweig, den *[42. Monat 2014]*