UNIVERSITÄT DUISBURG-ESSEN
FAKULTÄT FÜR INGENIEURWISSENSCHAFTEN
ABTEILUNG INFORMATIK UND ANGEWANDTE KOGNITIONSWISSENSCHAFT

Bachelorarbeit

Fancy thesis template

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Angewandte Informatik (Bachelor)

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ESSEN

Fachgebiet Verteilte Systeme, Abteilung Informatik
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Abstract

An abstract is a brief summary of a research article, thesis, review, conference proceeding, or any in-depth analysis of a particular subject and is often used to help the reader quickly ascertain the paper's purpose. When used, an abstract always appears at the beginning of a manuscript or typescript, acting as the point-of-entry for any given academic paper or patent application. Abstracting and indexing services for various academic disciplines are aimed at compiling a body of literature for that particular subject. [1]

[1] Wikipedia: `https://en.wikipedia.org/wiki/Abstract_(summary)`

Contents

Chapter 1

Introduction

The introduction is a short overview of the context and goals of the paper. It describes the structure and contents of the paper to provide the reader with enough information to find parts of relevance to their current interest quickly.

If you are unfamiliar with LaTeX, you will probably need to take some time to learn the general workflow. However, this will save you a lot of time and headaches later on, as it allows you to completely focus on the content instead of managing layouts and correct citation. There are multiple great guides and introductions on using it. [2, 3, 4]

You can also find a searchable and browsable list of all common LaTeX documentation online. [1]

Chapter 2

Related Work

This chapter presents the basis on which the system and later evaluation are built. It usually contains short descriptions of previous research papers and puts them into the context of the thesis.

2.1 Code Listings

If there is some interesting code you would like to show in order to ease the understanding of the text, you can just include it using the `lstlisting` environment. Have a look at the source of this page to see how this is included:

```
x := from(42);
```

You could also put the code into an external file and include it in this document using the `lstinputlisting` command:

```
1 var x = new Node
2 if luck() {
3     var y = new Node
4     x.next = y
5 }
6 return
```

Be careful not to include large files as it hampers readability. If there is a short excerpt from a large file you would like to show, you can also extract an explicit range of lines from it without the need to modify the source file. This next listing only shows the conditional from the previous code:

```
2 if luck() {
3     var y = new Node
4     x.next = y
5 }
```

To use more advanced syntax highlighting have a look at the available options of the *listings* package or use the *minted* package[1], which has more extensive language support and additional themes. Both can be configured in the main file.

2.2 Math

In case you need to include some math, the *amsmath* package[2] is already included in this document.

To properly display some short formula like $e^{i\pi} = -1$, you can use the `\( \)` inline command. For larger formulas, the `math` environment is more appropriate. If you need to reference the formula multiple times, e.g. in case it is used in theorems, you should use the `equation` environment:

$$\vec{\nabla} \times \vec{B} = \mu_0 \vec{j} + \mu_0 \varepsilon_0 \frac{\partial \vec{E}}{\partial t} \tag{2.1}$$

To reference it as 2.1 using the `\ref{}` command, remember to use a `\label{}`.

2.3 Miscellaneous

You can use the `\todo{}` command to put obvious reminders on the side of the document.

TODO: like this!

[1] `https://texdoc.net/texmf-dist/doc/latex/minted/minted.pdf`
[2] `https://texdoc.net/texmf-dist/doc/latex/amsmath/amsmath.pdf`

Chapter 3

Evaluation

The evaluation usually consists of three main steps: first it defines the goals intended to be achieved by the software in detail; next is a description of the methodology used to measure the satisfaction of the software in relation to these goals; finally, the measurements are depicted and assessed.

Chapter 4

Conclusion

The conclusion quickly summarizes the results of the paper in relation to the previously defined goals and hypotheses. It usually also includes some information on next steps and further research that might be required or possible on the presented subject.

Bibliography

[1] Stefan Kottwitz and Paulo Cereda. *TeXdoc Online*. [Online; accessed 18-Aug-2020]. 2020. URL: `https://texdoc.net/`.

[2] Overleaf. *Overleaf LaTeX Documentation*. [Online; accessed 18-Aug-2020]. 2020. URL: `https://www.overleaf.com/learn/latex/Main_Page`.

[3] The LaTeX Project. *learnlatex.org*. [Online; accessed 18-Aug-2020]. 2020. URL: `https://www.learnlatex.org/`.

[4] Wikibooks. *LaTeX — Wikibooks, The Free Textbook Project*. [Online; accessed 7-May-2020]. 2020. URL: `https://en.wikibooks.org/w/index.php?title=LaTeX`.

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- dass ich alle entsprechenden Angaben nach bestem Wissen und Gewissen vorgenommen habe, dass sie der Wahrheit entsprechen und dass ich nichts verschwiegen habe.

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(Ort, Datum)

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