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Title of a Great Dissertation

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Master's in Using LaTeX

Supervisor:

Doctor Supervisor, Assistant Professor,
Iscte - Instituto Universitário de Lisboa

Co-Supervisor:

Doctor Co-Supervisor, Assistant Professor,
Iscte - Instituto Universitário de Lisboa

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TECHNOLOGY
AND ARCHITECTURE

Department of Typesetting

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Month, Year

Write here your dedication.

Acknowledgments

Write here your acknowledgements and, if applicable, any grants or sources of funding.

Resumo

Escreva aqui o resumo em Português. Existe um limite de 250 palavras.

Palavras-Chave: *Palavras-chave, separadas, por, vírgulas*

Abstract

Write here the abstract in English. There is a 250 word limit.

Keywords: *Keywords, separated, by, commas*

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List of Acronyms

DSR: Design Science Research

IS: Information System

CHAPTER 1

Introduction

All chapters automatically begin on odd-numbered pages. If a chapter would start on an even-numbered page, a blank page is automatically added.

1.1. This is a Section

The first paragraph of a chapter or section is not indented, i.e. it is aligned with the title. All following paragraphs have an indentation of 0.7cm. This is done automatically.

We are currently in Chapter 1. When referring to chapters or sections this way, it's customary to write "Section", "Chapter", and so on in uppercase, as opposed to "section" or "chapter".

1.1.1. Subsection

You can have sub-sections within sections. Use these to better organise your content, if you feel like it's needed.

1.1.1.1. *Sub-subsection* You can even have sub-subsections! These are formatted differently (as you can see here), and do not appear in the Table of Contents.

1.2. This is Another Section

This is another section. You can define as many as you want, and they are automatically numbered within their chapter.

CHAPTER 2

Literature Review

References should be added to the references.bib file, in BibTeX format. They can then be cited in the text. Anything you cite in the text is automatically added to the list of References at the end of the document.

A paper by Peffers et al. [?] explores the usage of Design Science Research (DSR) for research in Information Systems (ISs).

CHAPTER 3

Typesetting in L^AT_EX

Your text can be written in *italics* or **bold**. If you’re feeling adventurous, you can even do ***both*** at the same time! There’s also `monospaced` and `CAPITALISED` text.

You can remove the indentation from a paragraph which isn’t the first of its chapter or section. If you need to do some extra sophisticated formatting, you may wrap your text in some special environments. For example, you can horizontally center some content on the page:

Isn’t that cool?

A lot of the time, you’ll want to list things out:

- This is a list with bullet points;
- You can add as many as you like!

Your lists can also be numbered:

- (1) This is the first item;
- (2) And so on...

Sometimes, it might be useful to change what is used as a “bullet point” within a list. For example, you might want your research questions labelled “RQ1” and “RQ2”. For example, this one might be useful:

```
\begin{enumerate}[label=\textbf{RQ\arabic*}] ... \end{enumerate}
```

Here’s what that looks like:

RQ1 Are LaTeX documents difficult to use?

You can format tables using LaTeX, as seen in Table 3.1. There’s a lot of customisation options, so it helps to use a website that creates them for you. Here’s a good option: <https://www.tablesgenerator.com/>.

TABLE 3.1. Table captions should always appear **above** the table.

| ID | Name | Email |
|----|-------|-----------------|
| 1 | Alice | alice@latex.com |
| 2 | Bob | bob@latex.com |

Images can also be included, as you can see in Figure 3.1. You can make them smaller or larger by changing their `width`. LaTeX usually places them wherever it decides they will fit best, but you can try modifying this behaviour using placement modifiers.¹

¹https://www.overleaf.com/learn/latex/Positioning_images_and_tables

FIGURE 3.1. Figure captions should always appear **below** the figure.

3.1. Mathematical Objects

LaTeX lets you typeset nice-looking mathematical formulae. For example, let $x = 5$ and $y = 3$. Then, $xy = 15$.

Some equations are so important that you can number them. For example, the series expansion of the function $y = \exp x$ at $x = 0$ is given by the infinite sum

$$\sum_{n=0}^{\infty} \frac{x^n}{n!}. \quad (3.1)$$

This definition is one of the ways that we can check that the derivative of an exponential is itself. Actually, we can prove this as a *Theorem*.

THEOREM 3.1. *Let $y = \exp x$. The derivative is given by $y' = \exp x$.*

PROOF.

$$\frac{d}{dx} \exp x = \frac{d}{dx} \sum_{n=0}^{\infty} \frac{x^n}{n!} = \sum_{n=1}^{\infty} \frac{d}{dx} \frac{x^n}{n!} = \sum_{n=1}^{\infty} \frac{nx^{n-1}}{n!} = \sum_{n=1}^{\infty} \frac{x^{n-1}}{(n-1)!} = \exp x$$

□

COROLLARY 3.1. *The function $y = \exp x$ is an eigenfunction of the derivative operator.*

If you need to state a known, named theorem, you can also do that.

THEOREM 3.2 (Fundamental Theorem of Calculus). *For any continuous function f , we have*

$$\int_a^b f'(t)dt = f(b) - f(a).$$

Besides Theorem, Corollary, and Proof, you can use the following environments:

- Axiom
- Case
- Claim
- Conclusion
- Condition
- Conjecture
- Corollary
- Criterion
- Definition
- Example

- Exercise
- Lemma
- Notation
- Problem
- Proposition
- Remark
- Solution
- Summary
- Theorem

3.2. Computer Code

You can typset code in your dissertation by using Listings², as in Figure 3.2, the Minted³ syntax highlighting package, as in Figure 3.3, or, if you need to write some pseudocode, the Algorithm environment, as in Algorithm 1.

```
public static void main(String[] args) {
    System.out.println("Hello world!");
}
```

FIGURE 3.2. Example of code formatting using listings.

```
public static void main(String[] args) {
    System.out.println("Hello world!");
}
```

FIGURE 3.3. Example of code formatting using minted.

Algorithm 1 Algorithm for Multiplying Two Integers

Require: $x \in \mathbb{N}$

Require: $y \in \mathbb{N}$

$i \leftarrow 0$

$z \leftarrow 0$

while $i < x$ **do**

$z \leftarrow z + y$

$i \leftarrow i + 1$

end while

return z

²https://www.overleaf.com/learn/latex/Code_listing

³https://www.overleaf.com/learn/latex/Code_Highlighting_with_minted

CHAPTER 4

Further Chapters

You can write anything you want! It's your dissertation; go wild.¹ Overleaf has a great set of tutorials² if you need some help with L^AT_EX. Happy writing!

¹Within your school's style guidelines.

²<https://www.overleaf.com/learn/latex/Tutorials>

CHAPTER 5

Conclusions

L^AT_EX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation.

This template conforms to ISTA’s dissertation style guidelines¹, accessed on July 12th 2024.

¹<https://www.iscte-iul.pt/conteudos/estudantes/informacao-academica/percurso-academico/area-mestrado/926/entrega-de-dissertacao-ou-trabalho-de-projeto>