MGI

Master Degree Program in

Information Management

FULL TITLE OF THE THESIS

An optional subtitle can be added

Student's Full Name

Master Thesis

presented as partial requirement for obtaining the Master Degree in Information Management

NOVA Information Management School

Instituto Superior de Estatística e Gestão de Informação

Universidade Nova de Lisboa

NOVA Information Management School

Instituto Superior de Estatística e Gestão de Informação

Universidade Nova de Lisboa

FULL TITLE OF THE THESIS

An optional subtitle can be added

by

Student's Full Name

Master Thesis presented as partial requirement for obtaining the Master Degree in Information Management with a specialization in Business Analytics

Supervised by

Supervisor's name, academic title (PhD; etc), Academic institution or School affiliation of the supervisor

March, 2025

STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

[place, date]

Just type your name, not your signature

DEDICATION

Just if you want to dedicate your work to someone dear to you or to someone that inspired you in your life. Here is not the place for acknowledge, it is a distinct honour to someone, although it is optional.

ACKNOWLEDGEMENTS

ABSTRACT

The abstract should be between 150 and 400 words and include no bibliographical references. The abstract should be one paragraph only. If the document is in Portuguese, please provide a Portuguese language abstract first, and the abstract in English on the following page. Abstract text.

KEYWORDS

Information Management; Research Methods; Data Analysis; Methodology

Sustainable Development Goals (SDG):

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

IR	Information Retrieval
LLM	Large Language Model
RS	Recommender System

1. INTRODUCTION

Introduction

Example of a citation in parentheses (Hastie et al., 2009).

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Example of an inline citation Einstein, 1905. This is in a second bib file.

You can also add equations such as Equation 1.1, some algorithms (1).

$$E = mc^2 \tag{1.1}$$

Algorithm 1 Bubble Sort Algorithm

1: **Input:** An array A of length n
2: **Output:** Sorted array A
3: **for** $i = 1$ to $n - 1$ **do**
4:    **for** $j = 1$ to $n - i$ **do**
5:       **if** $A[j] > A[j + 1]$ **then**
6:          Swap $A[j]$ and $A[j + 1]$
7:       **end if**
8:    **end for**
9: **end for**
10: **return** A

You can also have some code listings: (See `https://www.overleaf.com/learn/latex/Code_listing` for documentation).

Listing 1.1: Example Listing

```python
# This is a simple Python function
def greet(name):
    print("Hello, " + name + "!")

# Call the function
greet("Alice")
```

1.1. Section 1

Here is an image of Figure 1.1. There is also a basic table here, Table 1.1

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Figure 1.1.: This is the logo of the university.

Table 1.1.: Example of a basic LaTeX table. Note the caption is on top.

Column 1	Column 2	Column 3	Column 4	Column 5
A1	B1	C1	D1	E1
A2	B2	C2	D2	E2
A3	B3	C3	D3	E3
A4	B4	C4	D4	E4
A5	B5	C5	D5	E5
A6	B6	C6	D6	E6
A7	B7	C7	D7	E7
A8	B8	C8	D8	E8

1.2. Section 2

And now some lists!

An unnumbered list:

- Apples

- Bananas

- Cherries

And a numbered list:

1. First item

2. Second item

3. Third item

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.2.1. Sub-Section 2-1: Examples of abbreviations

Information Retrieval (IR) plays a crucial role in many modern applications, including search engines and digital libraries. With the rise of Large Language Models (LLMs), the efficiency and accuracy of IR systems have significantly improved. Similarly, Recommender Systems (RSs) have benefited from advancements in deep learning, providing personalized recommendations based on user preferences.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2. LITERATURE REVIEW

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

3. METHODOLOGY

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

BIBLIOGRAPHICAL REFERENCES

Einstein, Albert (1905). "Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]". In: *Annalen der Physik* 322.10, pp. 891–921. DOI: 10.1002/andp.19053221004.

Hastie, T., R. Tibshirani, and J.H. Friedman (2009). *The Elements of Statistical Learning: Data Mining, Inference, and Prediction*. Springer series in statistics. Springer. ISBN: 9780387848846.

APPENDIX A

Here's Table A1 in the Appendix. Note that the numbering is different from Table 1.1.

Table A1.: Example of a table in the Appendix.

Column 1	Column 2	Column 3	Column 4	Column 5
A1	B1	C1	D1	E1
A2	B2	C2	D2	E2
A3	B3	C3	D3	E3
A4	B4	C4	D4	E4
A5	B5	C5	D5	E5
A6	B6	C6	D6	E6
A7	B7	C7	D7	E7
A8	B8	C8	D8	E8

Algorithm A1 Algorithm in the Appendix

1: **Input:** An array A of length n
2: **Output:** Sorted array A
3: **for** $i = 1$ to $n - 1$ **do**
4:    **for** $j = 1$ to $n - i$ **do**
5:       **if** $A[j] > A[j + 1]$ **then**
6:          Swap $A[j]$ and $A[j + 1]$
7:       **end if**
8:    **end for**
9: **end for**
10: **return** A

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.