CHALMERS
UNIVERSITY OF TECHNOLOGY

UNIVERSITY OF GOTHENBURG

Simulation of traffic flows and road network analysis

A tool for simulating road networks

Bachelor's thesis in Computer science and engineering

MARTIN BLOM
FELIX JÖNSSON
HANNES KAULIO
MARCUS SCHAGERBERG
JAKOB WINDT

Simulation of traffic flows and road network analysis

A tool for simulating road networks

MARTIN BLOM
FELIX JÖNSSON
HANNES KAULIO
MARCUS SCHAGERBERG
JAKOB WINDT

UNIVERSITY OF
GOTHENBURG

CHALMERS
UNIVERSITY OF TECHNOLOGY

Simulation of Traffic Flows
A tool for simulating road networks
MARTIN BLOM FELIX JÖNSSON HANNES KAULIO
MARCUS SCHAGERBERG JAKOB WINDT

Supervisor: Natasha Bianca Mangan, Interaction Design and Software Engineering
(if applicable) Advisor: Name, Company or Institute
Examiner: Name, Department

Bachelor's Thesis 2023
Department of Computer Science and Engineering
Chalmers University of Technology and University of Gothenburg
SE-412 96 Gothenburg
Telephone +46 31 772 1000

Cover: Description of the picture on the cover page (if applicable)

Typeset in LaTeX
Gothenburg, Sweden 2023

Simulation of Traffic Flows
A tool for simulating road networks
MARTIN BLOM, FELIX JÖNSSON, HANNES KAULIO, MARCUS SCHAGER-
BERG, JAKOB WINDT

Department of Computer Science and Engineering
Chalmers University of Technology and University of Gothenburg

Abstract

This document is *only* a LATEX template. It is not meant to suggest a particular structure. Also, even if this document is written in English, is is not meant to suggest a report language. You can adopt it to your language of choice. In this document, the bibliography is hand made. However, we suggest that you strongly consider using BibTeX, to further automate the creation of the bibliography.

Keywords: put, here, keywords, describing, areas, the, work, belongs, to

Acknowledgements

If you want, you can here say thank your supervisor(s), company advisors, or other people that supported you during your project.

Contents

Contents

x

List of Figures

List of Figures

List of Tables

Glossary

1

Introduction

Make sure you have read the abstract of this template. This chapter presents the section levels that can be used in the template.

1.1 Section levels

The following table presents an overview of the section levels that are used in this document. The number of levels that are numbered and included in the table of contents is set in the settings file `settings.tex`. The levels are shown in Section 1.2.

Name	Command
Chapter	`\chapter{`*`Chapter name`*`}`
Section	`\section{`*`Section name`*`}`
Subsection	`\subsection{`*`Subsection name`*`}`

1.2 Section

1.2.1 Subsection

2

Theory

In the following sections, examples of a figure, an equation, a table and a source code listing are shown.
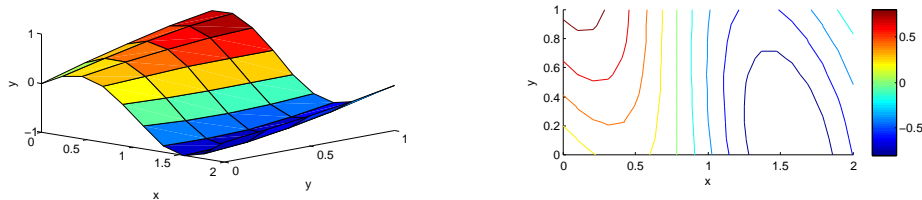
2.1 Figure

Figure 2.1: Surface and contour plots showing the two dimensional function $z(x, y) = \sin(x + y)\cos(2x)$.

2.2 Equation

$$f(t) = \begin{cases} 1, & t < 1 \\ t^2 & t \geq 1 \end{cases} \tag{2.1}$$

2.3 Table

Table 2.1: Values of $f(t)$ for $t = 0, 1, \ldots 5$.

t	0	1	2	3	4	5
$f(t)$	1	1	4	9	16	25

2.4 Source code listing

```
% Generate x- and y-nodes
x=linspace(0,1); y=linspace(0,1);
```

```matlab
% Calculate z=f(x,y)
for i=1:length(x)
 for j=1:length(y)
  z(i,j)=x(i)+2*y(j);
 end
end
```

3
Methods

Text ...

4
Results

Text ...

5
Conclusion

Text ...

Bibliography

A
Appendix 1

Figure A.1: Unity logo

II

B
Appendix 2

This is where we will place appendix 2