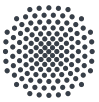

University of Stuttgart
Germany

[Thesis name]

Master's Thesis

[Your Name]
[Degree Program]

[Matriculation Number]

Examiner: [Name of examiner]
Supervisors: [Supervisor 1]
[Supervisor 2]

Dept. of Hydraulic Engineering and Water Resources Management
Institute for Modelling Hydraulic and Environmental Systems (IWS)

Declaration

Example of declaration: I declare that I have developed and written the enclosed thesis completely by myself and that I have not used sources or means without declaration in the text. Any thoughts from others or literal quotations are clearly marked. The thesis was not used in the same or in a similar version to achieve an academic grading or is being published elsewhere. The enclosed electronic version is identical to the printed versions.

I agree that the present work is made available for scientific purposes in the libraries of the Institute for Water and Environmental Systems, University of Stuttgart (published according § 6 Abs. 1 UrhG (Copyright Act) and thereof can be cited under § 51 of the UrhG (Copyright Act).

Acknowledgments

add your Acknowledgments

Abstract

Abstracts should not be more than one page. A thesis written in Germany requires an additional English abstract.

Contents

List of Figures

List of Tables

Notation

Roman letters

Letter	Unit	Description
x	m	streamwise coordinate, pointing in the upstream direction
y	m	spanwise coordinate, pointing toward the right bank
z	m	vertical coordinate, pointing against gravity acceleration vector

Greek letters

Letter	Unit	Description
η	–	porosity
Φ	–	dimensionless bedload transport

Acronyms, abbreviations, and subscripts

CFD	Computational Fluid Dynamics
GIS	Geographic Information System
GUI	Graphical User Interface
OS	Operating System

Note: SI unit abbreviations like "a" for annum or "m" for meter are not listed.

Chapter 1

Introduction

Welcome!

This template is provided at https://github.com/Ecohydraulics/latex-thesis-template and can be cloned with (requires GitBash):

```
git clone https://github.com/Ecohydraulics/latex-thesis-template
```

1.1 Background

Example reference to Figure 1.1, which is based on (Kim, 2017). If you need to introduce abbreviations like Operating System (OS), or parameters like the dimensionless bed load transport Φ, make sure to also define them at the beginning in `notations.tex`.

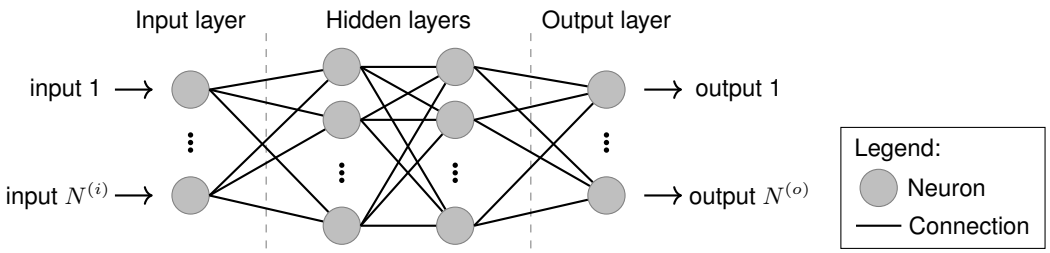

Figure 1.1: Structure of a neural network.

1.2 Motivation

Delineate the research gap (max. 2 pages).

1.3 Research question

Based on the research gap defined in section 1.2, define the hypothesis here:

Research question & hypotheses

What is needed because of the research gap (no Yes-or-No question)?
My test hypotheses are:

(i) A specific aspect that can be boolean (True-or-False), which I test for answering the research question.

(ii) Another specific aspect that can be boolean (True-or-False), which I test for answering the research question.

Chapter 2

State-of-the-Art

Check what others have done, which is relevant to your research question and to provide evidence for testing the hypotheses defined in section 1.3.

For coherence: note that chapter titles should be *Camel Cased*, while everything else is *Sentence cased*.

2.1 Previous works

As explained in Negreiros et al. (2024).

2.2 Types of something

Do Kundu and Cohen (2008) talk about Lagrangian and Eulerian concepts visualized in Figure 2.1?

2.2.1 A subsection

As the Table 2.1 shows, this text has to introduce the thing before the table lists the use of the thing.

Table 2.1: Captions of tables should be positioned above the table, while figure captions should be in the bottom

Thing	Use
something	something
something	something
something	something

2.2.2 No subsection goes alone

And it should also have some text.

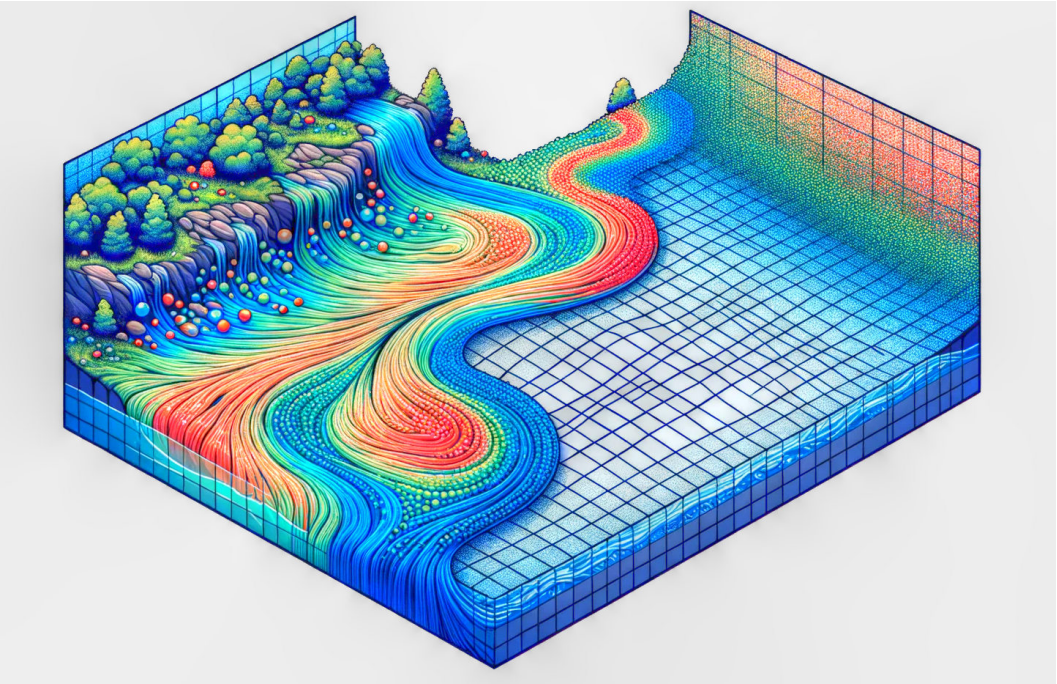

Figure 2.1: An example figure that visually tries to integrate Lagrangian and Eulerian concepts.

2.3 Something statistics

As shown in Equation 2.1

$$happiness = \frac{EmptyCup + coffee}{EmptyCups} \tag{2.1}$$

2.4 A section header

2.4.1 The logic underlying something

Definition: The thing

This is the definition of the thing.

2.4.2 Concepts and terminology

Something set rules

Understanding the semantics of something

2.5 Something or nothing?

Unnumbered non-sense header?

The note

Do you really need to do so much numbering?

Chapter 3

Methods

Describe the methods that YOU use to answer the research question.

Remember: your goal is to provide a pathway for testing the hypotheses defined in section 1.3.

3.1 Algorithms

To explain your algorithms, use the boilerplate templates from our thesis class. For example:

```
    def add\_one(par):
        """
        :param int par: an integer input parameter

        A simple function that adds one
        """
        return par += 1
```

3.2 Commands

Commands send to terminal can be written in a terminal environment, for instance, with guidance for cloning a repository:

```
git clone https://github.com/Ecohydraulics/latex-thesis-template
```

In-line, commands like `git clone` can be added.
However, for directories and filenames, use `/dir/to/code.py`.

Chapter 4

Results

Present your results here. This section should not include and reference (citation) because you are presenting your results. If you need a reference, the sentence you are about to write probably better fits into the state-of-the-art, methods, or discussion.
Remember: your goal is to provide evidence for testing the hypotheses defined in section 1.3.

Chapter 5

Discussion

Describe logical links that can be inferred from your results here. How do the results help to test the hypotheses stated in section 1.3?

- Do not write: "The hypothesis is True" or "The hypothesis is False".
- Do write: "No evidence was found that the hypothesis is false." or "Evidence was found that the hypothesis is false."

Why so complicated?

From a scientific perspective, we can never be absolutely sure about the truth of a hypothesis. This is why we need to use this complicated writing.

Now, how does this help answering the research question?

Chapter 6

Conclusions

Not an abstract: summary of NEW INSIGHTS GAINED FROM THIS THESIS BASED ON THE RESEARCH QUESTION, and as per the discussion.

References

Kim, P. (2017). Neural network. In *MATLAB deep learning: With machine learning, neural networks and artificial intelligence* (pp. 19–51). Berkeley, CA: Apress. Retrieved from https://doi.org/10.1007/978-1-4842-2845-6_2 doi: 10.1007/978-1-4842-2845-6_2

Kundu, PK., & Cohen, IM. (2008). *Fluid Mechanics* (4th ed.). San Diego, CA, USA: Elsevier Inc. Retrieved from https://www.sciencedirect.com/book/9780124059351/fluid-mechanics

Negreiros, B., Schwindt, S., Scolari, F., Barros, R., Galdos, A. A., Noack, M., ... Wieprecht, S. (2024, January). A database application framework toward data-driven vertical connectivity analysis of rivers. *Environmental Modelling & Software*, *172*, 105916. Retrieved 2023-12-13, from https://www.sciencedirect.com/science/article/pii/S136481522300302X doi: 10.1016/j.envsoft.2023.105916

Appendices

Appendix A

Something to Complement

A.1 Maps, for example