

Czech Technical University in Prague
Faculty of Information Technology
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DISSERTATION THESIS TITLE

by

YOUR NAME

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Abstract and contributions

This dissertation thesis deals with ...

In particular, the main contributions of the dissertation thesis are as follows:

1. Design of a methodology of a ...
2. ...
3. ...

Keywords:

keyword1, keyword2, keyword3, keyword4, keyword5.

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Dedication

...

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Abbreviations

Number Sets

$\mathbb{N}$	Natural numbers set
$\mathbb{N}_0$	Natural numbers set $\cup \{0\}$
$\mathbb{Z}$	Integer numbers set
$\mathbb{Z}_m$	Least nonzero residue number set with a module of m
$\mathbb{S}_m$	Symmetric residue number set with a module of m
$\mathbb{Q}$	Rational numbers set
$\mathbb{F}_t$	Floating point numbers set with a precision of t
$\mathbb{R}$	Real numbers set

Common Mathematical Functions and Operators

10_2	Numbers' radices are designated with a subscript
$\mathbf{b}$	Vector $\mathbf{b}$
b_i	the i^{th} element of vector $\mathbf{b}$
$\ \mathbf{b}\ $	Norm of vector $\mathbf{b}$
$\dim \mathbf{b}$	Dimension of vector $\mathbf{b}$
$\mathbf{A}$	Matrix $\mathbf{A}$
$a_{i,j}$	Element of matrix $\mathbf{A}$ at the i^{th} row, and the j^{th} column
$\mathbf{A}^{-1}$	Inverse matrix to matrix $\mathbf{A}$
$\mathbf{A}^T$	Transposed matrix to matrix $\mathbf{A}$
$\ \mathbf{A}\ $	Norm of matrix $\mathbf{A}$
$\text{cond } \mathbf{A}$	Condition number of matrix $\mathbf{A}$
$\text{rank } \mathbf{A}$	Rank of matrix $\mathbf{A}$ — how many independent rows/columns it has
$\max \{a, b\}$	Maximum of a and b , a when $a \geq b$, b when $a < b$
$\min \{a, b\}$	Minimum of a and b , a when $a \leq b$, b when $a > b$
$O(x)$	The big O notation
$\Theta(x)$	The big Θ notation

Mathematical Terminology

Q	Number of prime number modules
M	A product of individual modules $M = \prod_{i=1}^Q m_i$
...	...
...	...
...	...
...	...

Miscellaneous Abbreviations

FPU	Floating Point Unit
...	...
...	...
...	...
...	...

Introduction

In this chapter, we...

1.1 Motivation

... [1] ...

1.2 Problem Statement

Brief description of the topic of the dissertation thesis. A complete explanation of the topic shall be described within chapter 2 at page 3.

1.3 Related Work/Previous Results

1.4 Goals of the Dissertation Thesis

1. ...

2. ...

3. ...

1.5 Structure of the Dissertation Thesis

The thesis is organized into ... chapters as follows:

1. *Introduction*: Describes the motivation behind our efforts together with our goals. There is also a list of contributions of this dissertation thesis.

1. INTRODUCTION

2. *Background and State-of-the-Art*: Introduces the reader to the necessary theoretical background and surveys the current state-of-the-art.
3. *Overview of Our Approach*: ...
4. *Main Results*: ...
5. *Conclusions*: Summarizes the results of our research, suggests possible topics for further research, and concludes the thesis.

Background and State-of-the-Art

...

2.1 Theoretical Background

2.2 Previous Results and Related Work

Overview of Our Approach

The sample Fig. 3.1 shows ...

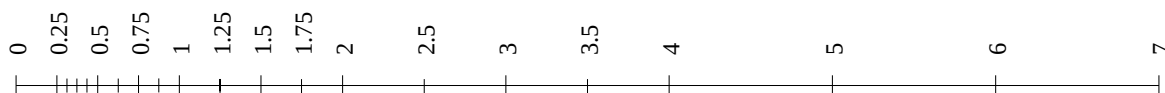


Figure 3.1: Distribution of the floating point numbers. This figure shows a distribution of a sample floating point number set with a precision $t = 3$, and $e_{min} = -1$ and $e_{max} = 3$.

There are two basic floating point data types, as defined by the IEEE 754-2008 [1] standard, are shown in Tab. 3.1.

	Sign [b]	Exponent [b]	Mantissa [b]	Prec. [dig]	Total [b]
binary32	1	8	24	8	32
binary64	1	11	53	16	64

Table 3.1: Basic floating point data types.

Main Results

4.1 Main Result 1

4.2 Main Result 2

4.3 Main Result 3

Theorem 4.3.1. Some theorem...

Proof. Its proof...

□

Corollary 4.3.2. The corollary is...

4.4 Discussion

4.5 Summary

Conclusions

5.1 Summary

5.2 Contributions of the Dissertation Thesis

5.3 Future Work

The author of the dissertation thesis suggests to explore the following:

- It would be interesting to ...
- Consider ...
- The implementation of our methodology could be further improved ...
- Apply the ...
- ...

Bibliography

- [1] IEEE Computer Society Standards Committee. *IEEE Standard for Floating-Point Arithmetic*. ANSI/IEEE STD 754-2008., The Institute of Electrical and Electronics Engineers, Inc., 2008, 58 pp.

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- [1] Gortz, R.; Tölökő, F. On the Carpathian Castle. In: *Transylvanian Journal of* Werst, Romania, 2010.

The paper has been cited in:

- Nováků, Š. Carpathian Castle Revealed. *International Symposium on Carpathian Legends*. 1:319–323, 2010.

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- Léfèvre, Ç. *Le Château des Carpathes : Le fin alternatif découvert !*,
- Q. Mañana. ...
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- Å. Sørensen. ...

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Some appendix

A.1 ...

Section not in the Table of Contents