

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

by

YOUR NAME

A dissertation thesis submitted to
the Faculty of Information Technology, Czech Technical University in Prague,
in partial fulfilment of the requirements for the degree of Doctor.

Dissertation degree study programme: Informatics

Prague, September 2013

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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.

Acknowledgements

First of all, I would like to express my gratitude to my dissertation thesis supervisor, Dr. Róbert Lórencz. He has been a constant source of encouragement and insight during my research and helped me with numerous problems and professional advancements.

I would like to thank to Dr. . . . , and Prof. . . . for giving me . . .

Special thanks go to the staff of the Department of Theoretical Computer Science, who maintained a pleasant and flexible environment for my research. I would like to express special thanks to the department management for providing most of the funding for my research. My research has also been partially supported by the Ministry of Education, Youth, and Sport of the Czech Republic under research program MSM 6840770014, by the Czech Science Foundation as project No. 201/06/1039, by the Grant Agency of the Czech Technical University in Prague, grant No. SGS . . . , and by the . . . I would like to express thanks to my colleagues from . . . group, namely Mr. . . . , Ms. . . . , Dr. . . . , and others, for their valuable comments and proofreading.

Finally, my greatest thanks go to my family members, for their infinite patience and care . . .

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 ...

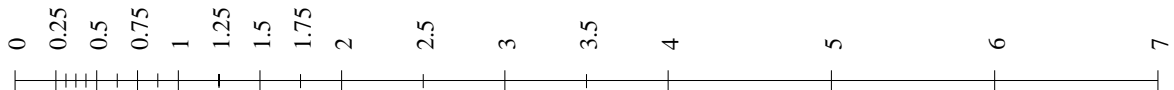


Figure 3.1: Distribution of the floating point numbers. This figure shows a distribution of a sample floating point number set with a precision $t = 3$, and $e_{min} = -1$ and $e_{max} = 3$.

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 ...
- ...

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- Léfèvre, Ç. *Le Château des Carpathes : Le fin alternatif découvert !,*
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Some appendix

A.1 ...

Section not in the Table of Contents