



University
of Stavanger

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New Directions in Machine-verifiable Progress Credentials and Fully Automated and Transparent Admissions Process

Bachelor's Thesis - Computer Science - January 2024

```
func (m *Manager) NewConfiguration(opts ... gorums.ConfigOption) (c *Configuration, err error) {
    if len(opts) < 1 || len(opts) > 2 {
        return nil, fmt.Errorf("wrong number of options: %d", len(opts))
    }
    c = &Configuration{}
    for _, opt := range opts {
        switch v := opt.(type) {
        case gorums.NodeListOption:
            c.Configuration, err = gorums.NewConfiguration(m.Manager, v)
            if err != nil {
                return nil, err
            }
        case QuorumSpec:
            // Must be last since v may match QuorumSpec if it is interface{}
            c.qspec = v
        default:
            return nil, fmt.Errorf("unknown option type: %v", v)
        }
    }
    // return an error if the QuorumSpec interface is not empty and no implementation
    var test interface{} = struct{}{}
    if _, empty := test.(QuorumSpec); !empty && c.qspec == nil {
        return nil, fmt.Errorf("missing required QuorumSpec")
    }
    return c, nil
}
```

I, **Hein Meling**, declare that this thesis titled, “New Directions in Machine-verifiable Progress Credentials and Fully Automated and Transparent Admissions Process” and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a master’s degree at the University of Stavanger.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
- I have acknowledged all main sources of help.

“Programming is a nice break from thinking.”

– Leslie Lamport

Abstract

In general, the chapters described below are expected in a bachelor's thesis. Some of the listed chapters may not be applicable to your thesis, and additional chapters covering special topics may be needed. A good approach is to describe each major concept/task in a separate chapter, and describe minor related concepts in sections/subsections within the chapters.

The top-level (numbered) list corresponds to the main chapters. The second level itemization lists the contents that should be covered in that chapter. The headings typeset in **boldface** should be sections on their own. In *italic* are more detailed comments.

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Chapter 1

Introduction

Page budget for Introduction: 3-5 pages.

1.1 Background and Motivation

- Awaken the reader's interest and convince her why the theme is important.
- Background information might be historical in nature, or it might refer to previous research or practical considerations.
- It should be written on a level that it's understandable by anyone with a computer science bachelor's degree.

1.2 Objectives

- Define the goals of your study.
- It might be presented as a bullet list.

1.3 Approach and Contributions

- Give a brief summary of your overall approach.
- Summarize the specific contributions that you made in this thesis (implementation, empirical results, analysis, etc.).

- It might be presented as a bullet list.

1.4 Outline

- Give an overview of the main points and the structure of your thesis.
- Examples: “Chapter 2 covers ... Chapter 3 describes ...”
- Show how the different parts (chapters) relate to each other.

Chapter 2

Related Work

Chapter 3

Approach

3.1 Introduction

3.2 Existing Approaches/Baselines

3.3 Analysis

3.4 Proposed Solution

Chapter 4

Experimental Evaluation

4.1 Experimental Setup and Data Set

4.2 Experimental Results

Chapter 5

Discussion

Chapter 6

Conclusions

Appendix A

Instructions to Compile and Run System

Write your Appendix content here.



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