Verification of the Prefix Sum Program in an OpenCL Environment

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Abstract

todo: write

Keywords

todo: write

Preface

todo: explain how this builds on the bachelor projects

Contents

1 Introduction

1.1 Research domain

todo: verification language, VerCors

1.2 Problem statement

todo: use of verification

1.3 Research question

todo: write

1.4 Approach

todo: verification process and problem solving

1.5 Report structure

todo: introduce chapters

2   Prefix sum algorithm

todo: explain parallel prefix sum, based on bachelorreferaat paper

3   Verifying permissions

todo: verification process of the read/write permissions of the array (initial based on bachelorreferaat, extended to allow functional verification)

4   Verifying functionality

todo: verification process of the functionality of the program

5 Discussion

todo: summary

5.1 Results

todo: result description: verified

5.2 Related work

todo: similar verification projects

6 Conclusion

todo: summary

6.1 Research question answer

todo: works, not for huge programs though

6.2 Limitations and problems

todo: tool limitations, change code for verification process

6.3 Research value

todo: do larger programs, improve tool, concurrency

6.4 Future work

todo: larger programs, improve tool

7 References