### An Optimizing

by

### Lucien William

Submitted to the Department of Electrical Engineering and Computer Science

in partial fulfillment of the requirements for the degree of

Bachelor of Science in Computer Science and Engineering

at the

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Author	
	Department of Electrical Engineering and Computer Science pubthesisdate
Certifie	d by
	Associate Professor
	William J. Dally
	Thesis Supervisor

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#### Abstract

In this thesis, I designed and implemented a compiler which performs optimizations that reduce the number of low-level floating point operations necessary for a specific task; this involves the optimization of chains of floating point operations as well as the implementation of a "fixed" point data type that allows some floating point operations to simulated with integer arithmetic. The source language of the compiler is a subset of C, and the destination language is assembly language for a micro-floating point CPU. An instruction-level simulator of the CPU was written to allow testing of the code. A series of test pieces of codes was compiled, both with and without optimization, to determine how effective these optimizations were.

Thesis Supervisor: Associate Professor

Title: William J. Dally

### Acknowledgments

The Lord and Savior SpongeBob Squarepants as well as my kitties for making life bearable.

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## List of Tables

Abstract: Here we have created a test pub to show how Pubs look when output to LaTeX.

#### Introduction

Here we introduce the subject matter and talk more about things like how screwed we are for instance. How bad things are in this world except for the internet. The internet is pretty cool. "Hassan Shaikley" 1

#### Why is the internet cool?

Because I said so. ibid.<sup>2</sup> Does that make sense? Or does it not make sense. it better god damn make sense.

### Body

A wise man once said

I don't want to live on this planet anymore.

Every day I wonder how to

```
var p = hassan.getLife()
p.relaxCircumstance();
```

### References

"Hassan Shaikley". "'Absolute Truths'." "Journal of Bigly", "2017".

 $<sup>^1</sup>$  "Absolute Truths'," "Journal of Bigly", "2017".

# Appendix A

## **Tables**

Table A.1: Armadillos

Armadillos	are	
our	friends	

# Appendix B

## Figures

Figure B-1: Armadillo slaying lawyer.

 $\label{eq:Figure B-2: Armadillo eradicating national debt.}$