

Zane Enders

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EDUCATION

University of Utah, Kalhert School of Computing

Salt Lake City, UT

Bachelor of Science Candidate: Computer Science

December 2024

- Undergraduate Research Position
- Related Coursework: Compilers, Algorithms, Computer Systems, Linear Algebra, Programming Languages, Operating Systems (Spring 2024), Models Of Computation, Computer Organization

EXPERIENCE

University of Utah, Compilers and Programming Languages Lab

Salt Lake City, UT

Research Assistant - Herbie Floating point Compiler

May 2023 – Present

- Added a diffing and filtering tool to make analysis of nightly reports easier and faster for the team
- Removed duplicated work being sent to e-graph
- Surfaced report metric of input data quality
- Contributed ideas for removing duplicate data being passed around entire code base
- Weekly status update meetings with the team sharing progress and blockers
- Participated in the ARITH 2023 Conference in September 2023
- Advised by Pavel Panchekha (University of Utah)

Contender Bicycles

Salt Lake City, UT

Sales and E-Commerce

May 2014 – October 2021

- Over 1 Million dollars in personal sales for 2017 & 2018 (not commission based).
- Automated product input by building a web scraper
 - Using Swift package SwiftSoup
- Migrated 15,000+ products from Wordpress to Shopify
 - First Swift project making a CSV parse to transform data formats.

TECHNOLOGY EXPERIENCE

- ~50,000 lines of code
 - Swift
- ~2,000 - 5,000 lines of code
 - C, C++, Java, JavaScript
- ~1,000 lines of code
 - C#, Python, Racket
- Other Tools:
 - Neovim, Git, Docker

PROJECTS

- Compiler for an array programming language (Swift)
 - Implemented lexer, recursive descent parser, typechecker and x86 code generation
 - Learned about LLVM, vectorization, e-graphs, LR parsing
- [Linux HTTP server \(Swift/ C\)](#)
 - I/O multiplexing with epoll using UnsafeMutablePointers
 - Basic resultBuilder DSL for generating HTML pages
- [Unix terminal UI DSL \(Swift\)](#)
 - Dynamic layout based on terminal size
 - Inspired by SwiftUI
 - resultBuilder, Observable, propertyWrapper
 - Keyboard navigation over graph
- 8-256 Pixel Sprite Editor (C++, QT)

INTERESTS

- Skiing
- Mountain biking
- Compilers
- Operating Systems
- End-user programming
- Human Computer Interaction