Zane Enders

Salt Lake City, UT ▪ (801) 391-4150
zane.enders@gmail.com ▪ github.com/zaneenders ▪ linkedin.com/in/zane-enders

EDUCATION

University of Utah, Kalhert School of Computing Salt Lake City, UT
Bachelor of Science Candidate: Computer Science *December 2024*

- Related Coursework: Compilers, Algorithms, Computer Systems, Linear Algebra, Programming Languages, Operating Systems, Models Of Computation, Distributed Systems, Image Processing.

EXPERIENCE

University of Utah, Compilers and Programming Languages Lab Salt Lake City, UT
Research Assistant - Herbie Floating point Compiler *May 2023 – Present*

- Added concurrency to Internal job server to allow more concurrent interactions to Herbie from its ReactJS frontend Odyssey.
- Improved Regimes data layout (AOS to SOA) and algorithm which together lead to a 2–3× speed up.
- Upgraded the reports page from static pages to using JavaScript. This has allowed more interactive capabilities like sorting, filtration, and diffing against other reports, improving ease of development.
- Surfaced report metric (Bogosity) of data input quality.
- Weekly status update meetings with the team sharing progress and blockers.

Contender Bicycles Salt Lake City, UT
Sales and E-Commerce *May 2014 – October 2021*

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

PROJECTS

- RAFT consensus algorithm (go, Swift)
- Compiler for JPL an array programming language (Swift).
  - Implemented lexer, recursive descent parser, typechecker and x86 code generation.
  - Learned about LLVM, vectorization, e-graphs, LR parsing.
- Butterfly (Swift)
  - A DistributedActorSystem, abstracting the concept of a machine for custom remote calls over TCP.
- Personal Website (Swift).
  - Built with Swift NIO and HummingBird.
  - Swift resultBuilder DSL encapsulating HTML, CSS and minimal JavaScript.
  - Deployed on Fly.io using git and docker.
  - Companion iOS App.
- Linux HTTP server (Swift/ C).
  - Originally implemented using I/O multiplexing with epoll and UnsafeMutablePointers.
  - Basic resultBuilder DSL for generating HTML pages.
- 32bit Hello World kernel (C and x86 asm).
  - Paging, basic ELF executables, QEMU
- QT5 apps (C++)
  - Simon Says.
  - Sprite Editor.
  - Git education app.
- Contributions to open source projects.
  - Swift, Hummingbird, swift-async-dns-resolver and, swift-for-wasm-examples.

INTERESTS

- Skiing
- Mountain biking
- Domain Specific Languages
- Distributed Systems
- End-user programming
- Human Computer Interaction