

Liam Rosenfeld

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SKILLS

Languages Swift, Rust, C++, Python, Javascript/Typescript, Java, SQL, ARM, VHDL
Frameworks SwiftUI, AppKit, UIKit, Accelerate, Axum, Vue, Svelte
Tools macOS, Linux, Git, Xcode Instruments, Docker, MongoDB, \LaTeX

EDUCATION

BS in Computer Engineering, University of Florida Class of 2025
GPA: 4.0, Minor in Mathematics, Honors Program Member

WORK HISTORY

Backend Software Engineer Summer 2022
Parametric Capital

- Built a server to collect, aggregate, and serve time series metrics to a visualization frontend
- Used Rust (with Axum and Tonic frameworks) for performance and MongoDB for storing structured data
- Designed and implemented a RESTful OpenAPI specification and a GRPC Protobuf specification

SELECT PROJECTS

Raspberry Pi Rust OS Built 2022 Writeup

- A kernel and basic operating system for a Raspberry Pi built in Rust
- Implemented booting, GPIO, UART, chainloading, allocation, and a Fat32 filesystem
- Debugged using a JTAG and GDB

Iconology Released 2020 Writeup

- macOS app to stream-line the process of icon generation with 5k downloads
- Built using AppKit, CoreGraphics, and SwiftUI

Image to ASCII Art Released 2017 Writeup

- iOS and macOS app on the App Store with 15k downloads
- Interface built using SwiftUI, UIKit, and AppKit and generation uses Accelerate vImage

Linkr Released 2020 Writeup

- Self hosted URL shortener for organizations
- Built using Rust, Svelte, and PostgreSQL for long term stability
- Implemented at Full Sail University to automate changes to their learning management system

WWDC Scholar 2019, 2020 2019 Writeup, 2020 Writeup

- My 2019 submission visualized the Fourier transform as rotating circles drawing a path
- My 2020 submission taught applying the Fourier transform to digital signal processing using Accelerate vDSP
- I had an opportunity to discuss my projects with Tim Cook

RESEARCH

Lilypad 2021-Present

- Building a dual modal code editor to improve introductory programming education
- Working with Dr. Jeremiah Blanchard and seven undergrad and graduate students
- Building using Rust to run in the browser using Web Assembly
- Focused on the human computer interaction of reading and editing code

TEACHING

Advanced Programming Fundamentals (COP 3504C) TA Fall 2022
AP Computer Science Principles TA 2019-2020