Liam Rosenfeld

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SKILLS

Languages	Swift, Rust, Objective-C, C++, C, Python, ARM & AVR Assembly, Typescript, SQL, 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

WORK HISTORY

Software Engineering Intern — Summer 2023

Apple

- On the Productivity Apps team responsible for canvas, editing, and core infrastructure
- Built a highly requested feature for Keynote, Pages, and Numbers on macOS, iOS, and Web
- Wrote a specification to define the behavior of the feature and its implementation
- Debugged a complex UI framework

Backend Software Engineer — Summer 2022

Parametic 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 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

UF Cat Tracker Built 2022

- Website so students can crowdsouce the location of friendly campus cats to pet
- Built using Rust, React, and PostgreSQL for ease of development and stability
- Built in a team of four organized using Agile

Iconology Released 2020 — Writeup

- macOS app to stream-line the process of icon generation with 6.5k downloads
- Built using AppKit, CoreGraphics, and SwiftUI

WWDC Accepted Scholarship Playgrounds 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

Image To ASCII Art Released 2017 — Writeup

- iOS and macOS app on the App Store with 17k downloads
- Interface built using SwiftUI, UIKit, and AppKit and generation uses Accelerate vImage

RESEARCH

Lilypad 2021-Present

- Building a text-based visual code editor to improve programming education
- First author for showpiece paper in the 2023 IEEE Symposium on Visual Languages and Human-Centric Computing
- Building using Rust to run native and in Web Assembly

TEACHING

Advanced Programming Fundamentals (COP 3504C) TA — Fall 2022