

Overview

I'm a long-time maker and doer of things. I love problem-solving in general; I gravitated towards technology as the most natural venue to scratch that itch. While my skills are primarily technical, I branch out to other areas when they interest me. I enjoy thinking through complex systems and solving logistical puzzles, whether human or machine.

Programming Skills (Summary)

- Plethora of experience with typical web technology stacks
 - Intimately familiar with JavaScript, HTML, and CSS, as well as Node.js, React, and Next.js
 - Know common libraries and frameworks within the ecosystem
 - I do care a lot about branching out beyond web tech, but I know it like the back of my hand
- Low-level programming
 - Lots of Rust experience, have built higher level programs as well as very unsafe and FFI-heavy code
 - Wouldn't say I'm fluent in C, but I know enough about the internals to get me by; I've used it in a professional capacity
 - I run macOS, Windows, and Linux (NixOS) daily. I have experience with their platform APIs as well as cross-platform engineering
- Used Go, Python, Haskell, C++, C#, Java, Kotlin, PHP, Bash, and Ruby (on Rails) enough to be able to comfortably write intermediate to advanced code in each, but don't use each frequently enough to claim fluency. I would likely need a refresher to write complex original code, and still have learning to do with many
- Comfortable with a variety of idioms from FP to traditional OOP to APL-style array programming

Work Experience

The Hack Foundation · 1 year · the.hackfoundation.org

Software Engineer (full time: in person in Burlington, VT)

Aug 2022 - Present

- Working on an embedded OS, game engine, and JavaScript runtime written in C. Focusing on interoperability, performance, rendering, DX, and audio synthesis
- Continuing development of the engine and editor environment, and designed and implemented the marketing page for [Sprig](#), our educational game engine, console, and hardware dev kit
- Leading the design and implementation of a massive ARG / scavenger hunt; think Cicada 3301 or I Love Bees
- Ran a successful human logistics operation to, in less than a day and with constrained resources, pack over 4,000 envelopes with a collection of items, directly managing and optimizing the assembly line throughout the day. Also designed the contents and format of the envelopes, including designing and overseeing production of the primary postcard included

Software Engineer (part time contract: remote)

May 2022 - Aug 2022

- Worked on tooling and frontend and backend development for community, hiring, and education
- Designed and implemented a frontend editor environment for an educational game engine, significantly contributed to the engine's API design, and wrote beginner-friendly documentation for the whole thing
- Helped run, contributed to the design of a puzzle hunt for, and mentored at [Assemble](#), a ~175-participant hackathon in San Francisco

Contributor to the Executive Director (part time contract: remote)

Nov 2021 - May 2022

- Worked daily with the executive director to brainstorm and collaborate, and contributed to various technical projects
- Oversaw the recruitment process for 2 technical and 2 non-technical positions
- Developed and maintained job listings using Next.js as well as a job portal written in Go (ssh-jobs.hackclub.com)



Projects & Open Source · 4+ years

- Built hundreds of personal projects across disciplines ranging from hobby electronics to apps, utilities, themes, and libraries
- Extensive experience with the open-source community and ecosystem; many published open-source projects of my own and over 9.5k cumulative stars on github.com/kognise
- Familiar with common project management workflows and collaboration beyond open source: paid freelance contract work, pair programming, leading or working within larger groups, and more
- While not a security expert, familiar with and interested in the intricacies of complex systems. Have reverse-engineering and some penetration testing and security research experience

Activities

Community Participation

As an (at least former) prolifically online person I've ended up spending a lot of time in and running larger online groups. I spent some time around 2019 - 2020 moderating Replit's community (>100k members) during which I created some moderation guidelines for their online technical forum.

In 2018 I started PenSquid, a Discord-based community of technical-minded people of all ages. It has an audience somewhere between pentester/hacker types and people who build niche hobby projects. It grew to be relatively small (~1000 members) but active, and created a lot of connections that I and others hold very close. I organized technical events, led a team of moderators and helpers, and developed bots and utilities to automate moderation techniques. I also led a lot of group projects with various groups of friends from the community. In mid-2022 I passed the torch of running PenSquid to a team of community members.

Through my time interacting with people I've garnered a lot of experience teaching and mentoring people of all levels; I've taught 10-year-olds the basics of code as well as helped people close to my level refine their knowledge in certain areas. I enjoy supporting people on their learning journeys.

Hackathons

Participated in a lot of hackathons including CodeDay New York and Bay Area, several Replit events, and a decent number more that I'm forgetting the names of. I do remember Node Knockout, notable because I won a pair of boxing gloves for best design and later got into boxing.

Worked on both solo and group projects from games to tools— I aim to build projects that are personally fulfilling rather than optimizing for prizes. It turns out that seeing projects through and polishing them is part of making them feel fulfilling to me, and judges tend to like what I build; I don't think I've been to a hackathon that I haven't won a primary prize at.

Non-Programming Skills

I have a lot of experience with UI, UX, and interaction design. While I don't find design particularly personally invigorating, I tend to have good attention to detail and thus can design high-quality user facing interfaces and interactions. Figma is my software of choice for interface design and vector graphics.

I can effectively communicate with short and long form writing, and am used to writing clear technical articles and documentation. I can write passable marketing/web copy.

I have some experience with PCB design as well as CAD tools like Fusion 360 when needed for hardware projects. I can make things in the physical world, ranging from electronic assembly and soldering to woodworking.

I've been playing cello for 10+ years, recently spending a lot of time in the New York contemporary music space. I compose both acoustic and electronic music and have skills in sound design; I've created sound effects to supplement interaction design in my own projects. Audio production software I'm familiar with includes Ableton Live, REAPER, Max, Pd, and Supercollider.

I'm also a pilot, studying for my private license on the Cessna 172.

