

Summary

Programming Languages: JavaScript / TypeScript, Rust, Elixir, Golang, MATLAB, SCSS, \LaTeX

Frameworks & Tools: React, Phoenix, Serverless / AWS Lambda, Docker, Kubernetes, Cargo, Make

Interests: Music and audio technology, generative art, user experience and accessibility, compilers

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Experience

Fearless Solutions

Software Engineer 2

March 2021 — present

- ▷ Adopted and expanded a prototype application built with *React* and the *Serverless Framework* into a production-ready state, and delivered it to users on time. The improvements included support for data migration scripts, multiple new user types and workflows, and integration with legacy systems via *Kafka*.
- ▷ Spearheaded an effort among technical personnel to improve code quality, test coverage, and user accessibility. This led to a significant decrease in defects and regressions pushed into our staging environment.
- ▷ Collaborated with security and operations teams to address findings from a pre-deployment audit. All findings were eliminated well in advance of the subsequent audit, and the deployment to production was able to proceed without incident.

Visionist Incorporated

Engineer 3

November 2020 — February 2021

- ▷ Maintained and enhanced a group of analytics for audio data using Elixir as the API layer and Rust to implement the signal processing algorithms. These were integrated using the *Rustler* library, and were chosen for Rust's performance characteristics and Elixir's robust operation in high-throughput systems.
- ▷ Fleshed out a system management interface from a minimal scaffold into a useful tool for systems administrators using the *Phoenix LiveView* library.

Engineer 2

August 2018 — October 2020

- ▷ Helped scale a suite of applications for real-time geographic data analysis up from prototype to production, focusing on performance and reliability. Improved communication between the development team and our user base to implement a faster and more robust feedback loop.
- ▷ Built and maintained a richly interactive web form using *React* to give users fine-grained control over their analytic rules. Incorporated usability recommendations from our UX specialists, feature requests from our users, and technical requirements from our contract in each iteration of the design.

Nu-Tek Precision Optical Corporation

Engineer 1

May 2016 — August 2018

- ▷ Developed and maintained a proprietary MATLAB toolbox for processing a variety of optical data formats, supporting common manipulations such as Zernike decomposition, FFT analysis, and automated generation of corrective programs for computer-controlled polishing machines.
 - ▷ Automated various administrative tasks such as printing work orders, tracking progress on each project, and generating customer documentation with *PowerShell* and \LaTeX .
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Education

University of Maryland, College Park

Bachelor's of Science in Physical Sciences

2012 — 2016

- ▷ Concentrations in Atmospheric and Oceanic Science, Chemistry, and Geology