

*Industry veteran software and systems generalist with 20 years experience in professional software engineering and development.*

*End-to-end tooling, service, and application lifecycle, from design, implementation, & documentation, to deployment and maintenance.*

*Strong reasoning and troubleshooting skills. Excellent written and verbal communication skills.*

On-Site or Hybrid Preferred

Location: Sunnyvale, Calif.

Email: [tim@penryu.dev](mailto:tim@penryu.dev)

## Programming Languages

- **Primary:** Rust, C, TypeScript/JavaScript, Python, Java, Shell, Perl
- **Secondary:** Lua, C++, C#, Scala, Clojure/ClojureScript, Ruby

## Skills Summary

- **Networking:** ssh, http, tcp/ip, smtp, dns, dhcp, and network firewalls
- **Firewalls:** pf, ipfw, iptables, Cisco IOS/PIX/ASA
- **Web Technologies:** REST, JSON, HTML, CGI, nginx, Apache
- **Systems Technologies:** Linux, macOS, FreeBSD, OpenZFS, OpenBSD
- **Development Tools:** Vim/NeoVim, VSCode, IntelliJ, git, svn, CMake, make
- **Virtualization:** qemu/kvm, libvirt/virsh, Proxmox, VMware/ESXi, Xen
- **Containers:** Docker, podman, some LXC
- **Spoken Languages:** English (native), Spanish, touch-type @ 60+ WPM,  $\LaTeX$ .<sup>1</sup>

## Certifications & Training

- Oracle Java SE 8 Programmer I
- US DoD Secret Clearance (§ 1.6, *inactive*)
- US DoD System Administration/Network Management Training (§ 3.1)

# 1 Experience

## 1.1 Senior Software Engineer, Platform Development

OpenDrives, Culver City, Calif. (remote)

2022 — 2026

- Languages: Rust, Python, Shell, C, TypeScript
- Technologies: OpenZFS, Docker, Kubernetes, GitLab CI, beadm, systemd, fio, FUSE
- Design, implement, and support Rust-based storage health monitoring service for flagship product
- On-boarding of engineers to new technologies. Mentoring of junior engineers
- `ztop`<sup>2</sup>: Ported Rust-based OSS filesystem monitoring tool to Linux
- `upgrader`: Design and lead greenfield project built on zfs, zfs, Docker, systemd-nspawn, and Python3
- `orville`: Implemented FUSE-based virtual fs in Rust with modular backend filesystems

<sup>1</sup>This document was generated from  $\LaTeX$  source.

<sup>2</sup><https://github.com/asomers/ztop/pull/26>

## 1.2 Senior Software Engineer

Chegg, Santa Clara, Calif.

2018 — 2022

- Languages: TypeScript, Java, Shell, Python, Perl, Clojure
- Technologies: Next.js, React, GraphQL, Jest, GitHub, GitLab, Docker, Jenkins, AWS (EC2, ECS)
- End-to-end development of the student face of Chegg<sup>3</sup>'s site
- Cross-functional collaboration ensuring developer, student, and corporate needs are met
- Design and develop tools and platforms to release and deploy mission critical applications
- Diagnose & troubleshoot software build, launch, and communication issues

## 1.3 Release & Integration Engineer, Developer Tools

Apple, Cupertino, Calif.

2013 — 2018

- Languages: C++, Python, Java, JavaScript, Perl, Shell
- Technologies: Git, JVM, CMake, Tomcat
- Extend and improve test and build systems for LLVM and LLDB
- Development and maintenance of public and internal build systems
- Developing, testing, and deploying applications in large clusters
- Troubleshooting hardware, software, and network communications

## 1.4 Backend Software Engineer, Legal Platform

Ultimate Internet Alliance, Ontario, Calif. (Remote)

2011 — 2012

- Web Application Design (PHP 5, CouchDB)
- FreeBSD System Administration

## 1.5 Systems Administrator

Food Bank of Northern Nevada, Sparks, Nevada.

2008 — 2010

- Configure and deploy Windows Active Directory network (Win2k8, Win7)
- Network infrastructure configuration & maintenance (Cisco IOS, ASA)
- Physical infrastructure (run and terminate cables, interface with ISP technicians)

## 1.6 Computer Systems Analyst, Contractor

Vista International Operations (VIOPS), Sierra Army Depot (SIAD), Calif.

2005 — 2008

- U.S. DOD subcontractor
- U.S. DOD Secret Security Clearance (*inactive*)
- U.S. DOD System Admin/Network Management (SA/NM) Training
- Cryptography and Authentication training: SSH, SSL, IPsec, VPNs, tunneling
- Protocols: ISO & DOD TCP/IP stack, TCP/UDP, ICMP, IPsec
- Design and implement web application with IIS/ASP and Google Maps
- Linux mail and FTP, Cisco PIX firewalls, DNS/BIND9 administration, database app development

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<sup>3</sup><https://www.chegg.com>

## 1.7 College Instructor

Truckee Meadows Comm. College, Reno, Nev.

2004 — 2007

- Beginning & Advanced Linux System Administration courses
- Beginning & Advanced Perl courses

## 2 Open Source Contributions

I maintain several personal Git repositories<sup>4</sup> and a personal technology and programming blog.<sup>5</sup>

I like to add support for additional platforms to existing project.

I ported the Rust-based ZFS dataset activity monitoring tool ztop<sup>6</sup> to Linux as part of my work for Open-Drives (§ 1.1), and trivially added support for FreeBSD to hwatch<sup>7</sup>.

I developed the dug<sup>8</sup> utility out of a personal need for a tool to help me debug potentially complex DNS resolution issues quickly.

I've developed tools for the LLVM.org Green Dragon CI<sup>9</sup> as part of my work for Apple (§ 1.3). These contributions can be found in the zorg<sup>10</sup> repository.

I have contributed Perl modules to the Comprehensive Perl Archive Network (CPAN).<sup>11</sup>

## 3 Education

### 3.1 US DOD, SANM Security Training

- U.S. Dep't of Defense System Administration/Network Management Training
- Best practices for security policy and implementation
- Cryptography for authentication: IPSec, SSL, SSH, tunneling
- Protocols: ISO & DOD TCP/IP stack, TCP, UDP, ICMP, IPSec

### 3.2 University of Nevada

- Computer Science & Engineering (CSE) major
- Not graduated. Junior status with 4.0 GPA in major, 3.72 overall GPA
- Two years of Spanish. Honors English

## 4 Spoken Languages

**English** I am a native speaker of English and can use it effectively in any situation. (§ 3.2)

**Spanish** I can read, write, speak, and understand the Spanish language. (§ 3.2)

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<sup>4</sup><https://git.penryu.dev/penryu>

<sup>5</sup><https://lex.pun.ninja>

<sup>6</sup><https://github.com/asomers/ztop/pull/26>

<sup>7</sup><https://github.com/blacknon/hwatch/pull/178>

<sup>8</sup><https://git.penryu.dev/penryu/dug>

<sup>9</sup><https://green.lab.llvm.org/>

<sup>10</sup><https://github.com/llvm/llvm-zorg/commits?author=penryu@apple.com>

<sup>11</sup><https://metacpan.org/author/TIMMY>