

# Harry Zhu

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## SKILLS

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**Languages:** Python · Java · JavaScript · TypeScript · Bash · C/C++ · SQL · Scala · PHP

**Tools:** Junit · Spring MVC · React · NodeJS · NextJS · Redis · Docker · AWS · BigQuery · PostgreSQL

## PROFESSIONAL EXPERIENCE

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**Open Source Software Developer** — Recidiviz November 2024 – Present

- Retired 200+ SQL sensitive data queries by pre-fetching metadata cache using Python, achieving near-instant lookups and boosting developer productivity, with projected savings exceeding \$10-15K in BigQuery costs annually
- Accelerated data standardization by 2.5x through parallel processing, transforming 200+ datetime fields across 45+ BigQuery tables, reducing processing time from hours to minutes while ensuring data consistency

**Software Engineer Intern** — F5 Networks, Inc. July 2024 – September 2024

- Implemented automated debugging using **Bash** shell scripting in Docker containers to analyze **100+** CI/CD pipelines resulting in **70%** faster crash analysis for **45+** developers on F5's core traffic management system
- Expanded knowledge sharing by creating documentation on crash analysis procedures, supporting 30+ developers
- Accelerated crash recovery time by 10% across teams by aggregating 5+ stack traces into bug reports per day

**Software Engineer Intern** — George Fox Communications Office August 2021 – April 2024

- Engineered 20+ **NodeJS** programs to leverage CMS workflow APIs, reducing development cycles and time by 90%
- Streamlined content review time by 95% through an API-driven **VueJS** CMS monitoring system for 4,000+ pages
- Enhanced user experience for 1,000+ daily visitors through performance and design optimization of 100+ pages

**Software Engineer Intern** — Liminal Insights, Inc. June 2023 – August 2023

- Reduced product configuration time by 90% by developing a Docker-driven feature flag tool in React for 7+ features
- Improved battery testing reliability by building a ZeroMQ message queue system processing 50+ debug logs/minute
- Achieved 95% uptime for 100+ industrial control events through Redis-driven data flow by removing race conditions

**Software Engineer Intern** — Recidiviz June 2022 – August 2022

- Eliminated 200+ vulnerabilities in the product platform through automated security scanning and remediation
- Built API-driven security account automation system handling **15+** annual departures using Docker and Python frameworks, driving **95%** efficiency gain in audit workflows until replacement by enterprise SOC2 solution
- Deployed 10 security controls in Google Cloud, including log monitoring via Pub/Sub, Slack alert integrations, and PagerDuty incident response scripts, reducing mean time to detection (MTTD) by 40%

**Security Analyst Intern** — Northwest Natural Energy, LLC May 2021 – August 2021

- Enabled real-time tracking of 1000+ daily logins through Splunk dashboard implementation for threat detection
- Reduced team search time by 5+ hours weekly through overhaul of 100+ SharePoint files and incident plans

## PROJECTS

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**TZ Medical ECG Medical Triage - Group Capstone Project** | [github.com/HarryZ10/ecg](https://github.com/HarryZ10/ecg)

- Defined requirements for a production-grade ECG triage system, delivering domain feature extraction scripts using SciPy, Scikit-Learn, and NumPy, including 34K ECG events with 95% precision in identifying anomalous data

**Ecological Simulation Models** | CS 434 Parallel & Distributed Systems | Fall 2023

- Implemented a parallelized predator-prey model in C++ using POSIX threads to simulate ecological dynamics
- Extended the model using MPI for distributed memory systems in C, managing communication among 10+ nodes
- Developed a CUDA-based GPU acceleration model, achieving faster simulation times by leveraging GPUs

## EDUCATION

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**George Fox University** Graduated April 2024  
Bachelor of Science in Computer Science Newberg, OR

**Coursework:** Ethical Hacking, Secure Software, Data Networking (TCP/IP suite, FTP, HTTP, UDP)

**Activities:** CodePath, ACM President, 2x CTF Medalist (Top 200), College Track, Gameheads