Harry Zhu

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Skills

Languages: Python · Java · Go · JavaScript · TypeScript · C/C++ · PHP · SQL

Tools: AWS · React · NodeJS · NextJS · TailwindCSS · Docker · PostgreSQL · REST API

Professional Experience

Software Engineering Contractor — Recidiviz November 2024 – Present

- Retired 200+ SQL sensitive data queries by pre-fetching metadata cache using Python on Unix systems, achieving instant lookups and boosting productivity, with projected savings exceeding $10-15K in BigQuery costs annually
- Built data pipeline services in Python to standardize 200+ schema configurations that processed 200+ datetime fields, improving data consistency and reducing processing time from hours to minutes

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

- Developed backend and automation tooling using Linux-based scripting to analyze 100+ CI/CD jobs, enhancing debugging efficiency for F5's core traffic management system in a Kubernetes container infrastructure
- 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

- Developed 20+ back-end tooling and data pipeline services using NodeJS, reducing development cycles 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 configuration time by 90% by making a Docker-driven feature flag tool in React using ORM for 7+ features
- Improved battery testing reliability by building a Linux-based ZeroMQ system processing 50+ debug logs/minute
- Maintained 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+ MS SharePoint files and incident plans

Projects

Ecological Simulation Models in C | 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

Context Free Grammar API in Golang | **github.com/GrammarHive/backend.grammarhive.org**

- Developed a text generation service using a grammar-based approach, allowing users to generate and upload contextualized text by utilizing MongoDB for storage and retrieval, along with a RESTful API for interaction
- Implemented authentication using Auth0, enhancing user experience while maintaining best practices in security

Education

George Fox University Graduated April 2024

Bachelor of Science in Computer Science Newberg, OR

Coursework: Operating Systems, Computer Architecture, Data Structures, Object Oriented Programming

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