

Harrison Brown

Cell: (510)-812-4066 | Email: harrybrown98@gmail.com | Github: github.com/harrybrwn

Skills

Languages: Go, Typescript, Python, C, Rust, Java, C++

Technologies: Kubernetes, AWS, PostgreSQL, gRPC, linux, React, Prometheus, Grafana

Experience

Software Engineer - Auth Teams

Nov 2021 - Feb 2025

JumpCloud

- Developed and maintained highly scalable gRPC microservices for authentication with X.509 certificates, mobile push notifications, SAML, OpenID Connect, and TOTP while ensuring 99.999% uptime for SLOs and SLAs.
- Led the initiative for passwordless authentication for a globally distributed RADIUS service.
- Maintained a secret key management system for encrypting secrets at rest ensuring that the platform was secure and compliant with data storage practices.
- Facilitated collaboration with product leaders and engineers to ship new features by developing strong processes, team protocols, and maintaining a documentation culture.
- Presented technical talks describing code, architecture, and the customer impact of new services, features, and tools.
- Personally increased the lines of documentation by 15% across all the Authentication Teams.
- Led initiatives for improving documentation across Authentication teams, resulting in a 15% increase in coverage and 20% increase in documentation utilization.
- Reduced production debugging time by 50% using distributed tracing leading to improved customer relations, cost savings, and improved uptime.
- Helped the design process for moving a multi-region FreeRADIUS cluster to kubernetes.
- Contributed to the internal kubernetes platform by adding support for custom operators.
- Provided my kubernetes experience during the early stages of migrating the platform to kubernetes.
- Contributed to the platform team's internal kubernetes tooling by implementing an edge case for reloading my team's geolocation service data.

Software Engineering Intern

Oct 2020 - May 2021

University of California, Merced

- Developed and maintained a real time monitoring system for routers and switches to catch potentially nefarious devices on the university research network using Oracle Database 19c.
- Helped stakeholders obtain actionable insights from my monitoring system by writing internal tools that aided data visibility and data management.
- Worked closely with the security and I.T. teams to understand the network and the threat model.

Web Development Intern

Feb 2020 - Aug 2020

Twist & Twirl Consulting

- Automated WordPress post management by connecting to MySQL using PHP to update posts.
- Satisfied customer needs by writing WordPress plugins for website functions such as randomized quotes, email contacts, or lightweight themes.

Education

University of California Merced

Aug 2017 - Aug 2021

Computer Science and Engineering, B.S.

Personal Projects

remora

Distributed web crawler and search engine.

- Leveraged tools like RabbitMQ, Redis, PostgreSQL for high throughput and data consistency.

- Achieved a crawl speed of 8 million web pages every 24 hours (on old hardware) by using distributed caching and horizontally scaling.
- Developed custom implementations of vector search algorithms in order to implement a scalable and distributed page rank algorithm.

homelab - (<https://github.com/harrybrwn/hrry.me>)

Monorepo containing various services and infrastructure configuration for my homelab.

- Developed hobby projects at every level from UI/UX to assembling server hardware.
- Managed self-hosted kubernetes and on-prem server infrastructure.
- Built a system for distributed logging, metrics, and tracing from the ground up.
- Developed a simple Platform-as-a-Service to simplify kubernetes maintenance and increase the speed of development cycles.

apizza - (<https://github.com/harrybrwn/apizza>)

Open Source command line tool for ordering pizza from Dominos.

- Managed my project by writing unit tests, tracking test coverage, and using CI/CD tools
- Utilized packet analyzers, browser dev tools, and computer networking knowledge in order to reverse engineer Dominos' RESTful API.

at - (<https://github.com/harrybrwn/at>)

- Developed a custom AT Protocol personal data server.
- Wrote a RPC server generator for atproto lexicons, significantly accelerating development cycles for new services and endpoints.

mercedtime.com - (<https://github.com/mercedtime>)

- Achieved near-real-time synchronization by periodically parsing UCM's catalog web page and storing the changes in PostgreSQL for consumption by a RESTful API and GraphQL API

Activities/Leadership

ACM (Association for Computing Machinery)

Sep 2018 - May 2021

General member

- Led and contributed to club projects such as the club website and club discord bot.