

Apoorv Kothari

apoorv@toidiu.com | toidiu.com | [github](https://github.com)

Summary

Experienced Rust developer with 15+ years of software development expertise, five of them focused on transport libraries used to serve billions of requests per day. Past experiences include releasing a production-ready cryptographic transport library, deploying services serving millions of requests/sec, migrating entire microservice backend to Kubernetes, and delivering complex Android solutions. Expert in Rust, QUIC, TLS, backend development and scalable software solutions. I am passionate about privacy and security.

Skills and Contributions

Skills: QUIC, TLS, Protocols, Cryptography, Backend Engineering, Android, and distributed systems. Rust, C, Java, Go.
Open source contributions: [s2n-quic](#), [s2n-tls](#), [quiche](#), [boring](#)

Work Experience

Cloudflare

Tech Lead / Systems Engineer - Protocols

Remote

Feb. 2025 - Present

- Led an org-critical migration of 5M customers (25M req/sec) from the legacy to the new proxy.
- Deployed [Session Resumption](#) and [0-RTT](#). Used metrics to identify gaps impacting ~13% of resumption attempts.
- Investigated and fixed a [bug](#) in our QUIC stack which was incorrectly closing ~2% of connections.
- Fixed [security vulnerabilities](#) in our QUIC stack. Coordinated the effort to patch all internal services before public disclosure.
- Root caused and fixed a complex deadlock issue in our Go proxy which was impacting up to 1K+ instances in the fleet.
- Mentored engineers during a risky CDN migration over 1.5 years, enabling the team to move fast while avoiding tech debt.

AWS

Software Engineer – Cryptography - Transport libraries

Seattle, WA

Feb. 2021 - Nov. 2024

- Core maintainer of [s2n-quic](#) and the [s2n-tls](#) networking protocol libraries which power the majority of AWS traffic.
- Enabled HTTP/3 support for CloudFront by integrating s2n-quic, resulting in 20% CPU reduction for the networking stack. Collaborated across teams to enable multi-certificate support by adding support for [asynchronous certificate loading](#).
- Built team consensus and implemented core library features by authoring technical documents. Notable accomplishments include [ACK Frequency](#) analysis, a zero-cost [event framework](#), and QUIC Connection Migration support.

Software Engineer – EC2

Nov. 2019 - Feb. 2021

- Deployed a critical Fingerprint service to replace 1K+ hardcoded EC2-compatibility rules across 3 services. Developed A/B testing strategy, unit testing, and detailed metrics to achieve migration with zero impact.
- Led the Fingerprint project from RFC to delivery and mentored a junior engineer to take over long-term ownership.
- Owned and operated a core service, repairing 100K+ live customer EC2 hosts/month and prevented production impact.
- Implemented automatic fail-safe switch to reduce blast radius from AWS Regions to AZ, enabling the team to move faster.

iHeartRadio

Infrastructure/Backend Software Engineer

New York, NY

Feb. 2017 - Mar. 2019

- Led and aligned owners across teams (Data/iOS/Design) and delivered a new music recommendation service, which featured versioned storage of the recommendation data and < 5min rollback capabilities in the case of bad data.
- Migrated production Scala microservice backend from Akka Cluster to Kubernetes over 6 months. The deployment was provisioned by Terraform and paved the path for onboarding other teams (Frontend, Data) in the company.

Consulting

Independent Consultant

Remote

Mar. 2016 - Feb. 2017

- Built an Android-based, project management solution to simultaneously support office and field personnel at a construction firm. The app featured cloud storage (Google Drive), synchronization, text/image editing.

TouchLab

Android Software Engineer

New York, NY

Sept. 2014 - Jan. 2016

- Delivered a solution to assist forest rangers with deforestation reporting; featured offline support and custom map rendering.

Education

The Cooper Union for the Advancement of Science and Art

Bachelor of Engineering | Full-tuition Academic Scholarship

New York, NY

Graduation 2012