

Apoorv Kothari

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Summary

I have 12+ years of software engineering experience across various platforms and parts of the tech stack. Past experiences include launching a highly performant cryptographic transport library, migrating production micro-service backend to Kubernetes, and delivering complex Android solutions. Expert in network engineering, backend development and scalable infrastructure. Passionate about security.

Skills

Network Engineering, Cryptography, TLS, QUIC. Backend Engineering, Android Engineering, Kubernetes, Terraform, MongoDB, SQL Rust, Java, Scala, Kotlin.

Work Experience

AWS

Seattle, WA

Software Engineer – Cryptography - Transport libraries

Feb. 2021 - Present

- Core maintainer of [s2n-quic](#) and the [s2n-tls](#) networking protocol libraries which power the majority of AWS traffic.
- Onboarded CloudFront to s2n-quic for HTTP/3 support which resulted in 20% CPU reduction for the networking stack. Helped enabled multi-certificate support for CloudFront subdomains by adding support for [asynchronous certificate loading](#).
- Secured team consensus and implemented large-scale library features, which influenced public APIs; highlights include: [Ack-frequency analysis](#), implementing a zero-cost [event framework](#), QUIC Connection Migration support, adding [client support](#) to s2n-quic, [mitigating Optimistic Ack Attack](#), [pedantic memory checks with Valgrind](#), [OpenSSL 3.0 support](#).
- Created [Netbench Orchestrator](#) which enabled production-like testing and informed library development.

Software Engineer – EC2

Nov. 2019 - Feb. 2021

- Maintained a core service which repaired 100K+ live customer EC2 hosts/month and prevent production impact.
- Implemented and automated a granular fail-safe switch which reduced incident blast radius from AWS region to AZ.
- Replace hardcoded EC2-compatibility rules across multiple services with a service-based approach. Increased auditability and made it easier to onboard new EC2 host types onto the service.

iHeartRadio

New York, NY

Infrastructure/Backend Software Engineer

Feb. 2017 - Mar. 2019

- Led the launch of the Music-Recommendation feature support. Aligned stakeholders across Data Science/iOS/Design teams and delivered a resilient service with rollback capabilities.
- Live migrated production Scala micro-service backend from Akka Cluster to Kubernetes over 6 months. The Kubernetes deployment was backed by Terraform and fully reproducible. The project paved the path to onboarding other teams (Frontend, Data Science) across the company to Kubernetes.
- Mitigated outage risks during MongoDB upgrades and mutations by implementing [embed MongoDB](#) testing for all services.

Consulting

Remote

Independent Consultant

Mar. 2016 - Feb. 2017

- Worked closely with [Shatterproof](#) non-profit leadership team as technical advisor; translated business requirements into technical-specification documents, interviewed candidates, and helped assess software systems proposed by outside contractors
- Delivered project management app for a construction firm, featuring Google Drive-backed storage, distributed synchronization across multiple devices, text/PDF/image editing, and full offline support.

TouchLab

New York, NY

Android Engineer

Sept. 2014 - Jan. 2016

- Delivered a solution to assist Forest rangers with deforestation reporting; featuring offline support, custom map rendering, and 3rd party data collection. Supplemental information: [meetup presentation slides](#) and [project mission](#).
- Collaborated closely with customers to deliver Android based solutions in a quick-paced environment.

Education

The Cooper Union for the Advancement of Science and Art

New York, NY

Bachelor of Engineering | Full-tuition Academic Scholarship

Graduation 2012