

EXPERIENCE

Cloudflare

Remote (Boston, MA)

Systems Engineer, Privacy Edge

12/2024 - Present

- Implemented a major [IETF RFC](#) from scratch and shipped to Cloudflare's edge early, serving over 50M requests and hitting 40K OSS [downloads](#) in one month.
- Contributing to privacy-preserving double-hop proxies in Rust to power Apple's Private Relay, Microsoft's Secure Browsing and similar services

Systems Engineer, Argo Smart Routing

2/2022 - 11/2024

- Owned a dataplane of UDP / TCP / IP network proxies in Rust serving > 800k requests per second globally, designed to find the fastest route to a web server
- Improved proxy tail latency by 10,000x (90 ms → 8 μs) by profiling an asynchronous work queue and incrementally replacing it with an in-memory cache
- Removed multiple single points of failure: built at-scale key rotation for Wire-guard tunnels, and designed + delivered a highly-available analytics pipeline
- Added out-of-application performance bottleneck observability through use of socket ancillary data and eBPF-based packet loss detection in the kernel

PlanGrid → Autodesk (acquisition)

San Francisco, CA

Site Reliability Engineer

9/2017 - 7/2019

- Managed networking, routing and reliability for over 100+ services across 2 intl. data centers with self-hosted Kubernetes clusters, Python, Terraform, Salt + AWS
- Built Plangrid's in-house canary release platform, allowing any backend service to catch bugs before being exposed to 100% traffic, using Istio and Spinnaker
- Improved disaster recovery response objectives by 95%+ by migrating live multi-TB Postgres write masters to streaming replication architecture

BrightEdge Technologies

San Mateo, CA

Software Engineer

7/2016 - 9/2017

- Sole maintainer of an SEO optimization system – ingested 40 million websites each week using a distributed batch processing pipeline built on Hadoop
- Quintupled network throughput after leading a switch to a binary wire protocol for intra-datacenter traffic (200 MB/s → 1 GB/s), using Apache Thrift
- Slashed monitoring latency by 96% by implementing priority queueing that “remembers” slow websites and diverts them to specialised channels

PROJECTS OF NOTE
Open Source**privacy-go**, a gRPC fork that secures sensitive data within Golang microservices by encrypting protobuf messages and enforcing function-level access control**Gbox**, a Layer 7 network proxy coordinator for distributed sagas, simplifying monolith to microservice migration**Contributed a feature to Netflix's Spinnaker**, allowing developers to add custom Datadog tags as first-class feature in its monitoring ecosystem**Contributed a feature to Hashicorp's Packer**, allowing developers to attach multiple temporary security groups in AWS AMI buildsMore projects available at <https://github.com/AkshatM>

EDUCATION

Brown University

Providence, RI

Masters of Science, Computer Science

Jan. 2020 - Dec. 2021

Teaching Assistant, CS1380: Distributed Systems

Research Assistant, Kubernetes operators research

University of California, Los Angeles (UCLA)

Los Angeles, CA

Bachelor of Science, Physics,

July 2012 - June 2016

cum Laude with College Honours

PROFICIENCIES

Rust, Golang, Python, Typescript, Saltstack, Terraform, Node.js