

Alex Lin

San Francisco, CA • alex.lin@alshadex.dev • linkedin.com/in/alex-lin • github.com/alshadex
Canadian citizen (TN visa eligible)

SUMMARY

Infrastructure and platform engineer with 4+ years building and operating highly available, multi-cloud infrastructure across AWS, Azure, and GCP, including the regulated AWS and Azure China partitions. Owns platform subsystems end-to-end (service-mesh networking, secrets, PKI, observability) on a deep Linux systems and Go foundation, focused on reliability, cost efficiency, and secure production systems.

EXPERIENCE

Software Engineer, Core Platform Infrastructure | Alkira Inc.

Aug 2022 – Present

- Own multiple core platform subsystems end-to-end (secrets, service-mesh proxy, PKI, datastore) and drive production rollouts across 5 environments and 4 clouds.
- Led deprecation of the per-node AWS NLBs and Route53 records fronting Alkira's 270+ production nodes, replacing them with a custom Envoy egress proxy that load-balances directly to gateway-node public IPs via Etcd, cutting recurring networking cost by thousands of dollars per month.
- Designed and shipped a phased mutual-TLS service mesh in which nodes publish services to Etcd as Protobuf and gateway Envoys build per-node filter chains and client mTLS routes, securing intra-CSN traffic and Prometheus metric scraping.
- Extended Alkira's CXP into the network-isolated AWS and Azure China partitions, injecting cross-partition S3/Route53 credentials into provisioning, log/stat shippers, and Helm charts as Kubernetes secrets; oversaw ICP licensing with the local partner.
- Sole author of Alkira's global Vault secrets platform (owned as an epic): per-CXP certificate-auth roles bound to step-ca node certs, a Vault agent baked into node images, and a DR-capable multi-node cluster for secret storage and transit encryption.
- Maintain the multi-cloud machine-image build system (Packer and QEMU across AWS, Azure, and GCP) that produces layered Debian base and node images running the VPP, FRR, StrongSwan, and OpenVPN dataplane stack, adding new provisioners to the nightly and release pipelines.
- Ran production on-call and Kubernetes/EKS lifecycle operations: staged control-plane and node-group upgrades with zero tunnel-health impact, upgraded Temporal, and debugged goroutine and memory leaks with Go Delve and pprof.

OS Security Developer & Test Intern | BlackBerry (QNX)

May – Aug 2021

- Built a C/Python unit-test suite for QNX's Strace covering Libc POSIX system calls (message passing, IO, forking, threading), added multithreaded trace-to-file output, and debugged memory bugs with GDB while cross-compiling the micro-kernel RTOS via GCC/Make/QEMU.

Cyber Analyst & Full-Stack Developer Intern | Deloitte

Jan – Dec 2020

- Built a full-stack internal web app (Flask, VueJS, PostgreSQL) to track incident-response engagements, and supported breach remediation (malware/ransomware) with log parsing, PII gathering, and patient-zero investigation.

OS Security Developer & Test Intern | BlackBerry (QNX)

May – Aug 2019

- Ported a legacy internal test framework to Pytest for QNX's kernel-level Mandatory Access Control feature, and maintained nightly Jenkins regression runs (Bash/Python/SSH) with cron-driven rsync backups.

TECHNICAL SKILLS

Cloud & IaC	AWS (EC2, EKS, ECR, S3, VPC, Route53, NLB/ELB), Azure, GCP; Terraform, Ansible, Packer, Scalr
Systems & Kernel	POSIX system calls, IPC, threading & concurrency; QNX microkernel, kernel-level MAC; Linux internals (systemd, cgroups, eBPF); GDB, Delve, pprof; GCC/Make/QEMU cross-compilation
Orchestration & CD	Kubernetes, Helm, ArgoCD, Concourse, Docker & Docker Compose
Observability	Prometheus, Grafana, k6, Alertmanager, Blackbox exporter, OpenTelemetry
Data & Secrets	Etcd, HashiCorp Vault, Temporal, PostgreSQL, MongoDB, Redis, Kafka, NATS
Networking & Security	Envoy (xDS), FRR/BGP, VPP, IPsec/StrongSwan, VXLAN, mTLS, step-ca PKI, gRPC/Protobuf
Languages	Go, C, Python, Bash, JavaScript/Node; familiar with C++, Rust

EDUCATION

University of Toronto | Toronto, ON

2017 – 2022

HBSc, Major in Mathematics, Double Minor in Computer Science & Statistics. Coursework: Systems Programming, Operating Systems, Networking, Cryptography, Statistical Learning.