

# ETHAN HUANG

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## PROFESSIONAL EXPERIENCE

**SpaceX (Starlink)** | Software Infrastructure Engineer | Sunnyvale, CA Jun. 2025 - Jan. 2026

- Spearheaded in-house Kubernetes operators for CockroachDB using Bazel, Go and Kubebuilder, building 8 controllers for authentication, backup restoration, schema migrations, connection pooling, and multi-region data synchronization.
- Executed zero-downtime production database migrations using ArgoCD and in-house K8s operator, coordinating schema changes while maintaining 99.9%+ availability and data integrity.
- Engineered Kubernetes operator conversion webhook to upgrade 100+ legacy custom resources for 60+ microservices, eliminating manual effort and ensuring seamless API upgrades.
- Transformed infrastructure provisioning from Helm to Jsonnet for 10+ microservices across all environments, improving configurability and eliminating YAML-based overlay sprawl.
- Automated TLS certificate and secrets management with cert-manager, HashiCorp Vault, and external-secrets, replacing manual credential rotation across all environments.
- Right-sized Kubernetes replicas across 60+ services using Prometheus and Grafana, achieving \$50K/month (\$600K annualized) in savings and defining capacity for GCP to on-premises migration.
- Maintained 99.9%+ uptime SLO for starlink.com serving millions of users through on-call rotation, triaging and resolving critical incidents including data replication failures and failovers.

**Supermicro** | Software Engineer | San Jose, CA Nov. 2023 - May 2025

- Architected 25+ on-premises Kubernetes clusters across 4 regions with 100+ servers, automating bare-metal provisioning with Ansible and ensuring 99.9%+ availability with Kube-VIP, MetallB, HAProxy, and Nginx.
- Owned ArgoCD platform end-to-end, driving GitOps adoption across the organization to manage 20+ applications across 25+ Kubernetes clusters, reducing deployment time and error by 90%.
- Engineered CI/CD pipelines as sole infrastructure engineer on a 6-person team with ArgoCD, DroneCI, Helm, and Kustomize, reducing deployment lead time by 50% and enabling self-service deployments.
- Implemented observability stack with Prometheus and Grafana, enabling real-time monitoring and alerting across 25+ production clusters with 500+ custom metrics.
- Deployed distributed storage infrastructure, orchestrating multi-cluster data synchronization, and disaster recovery for 2 TB with Rook-Ceph and MariaDB-Galera, ScyllaDB, Kafka, achieving 99.9%+ uptime.
- Develop 10+ mission-critical services using TypeScript, React, Express, GraphQL within a distributed system architecture, delivering robust, scalable, and user-friendly applications.

**NavisX (Startup)** | Software Engineer | Remote Mar. 2023 - Oct. 2023

- Led engineering at 4-person startup, architecting full-stack MVP with Next.js and shipping to 100+ beta users within 4 months.

## EDUCATION

**Cornell Tech, Cornell University** | M.Eng. in Computer Science | Merit Scholarship 2022

**University of California San Diego** | B.S. in Computer Science | GPA: 3.94 | Provost Honors 2021

## PROJECTS

[ethanhuang.dev](https://ethanhuang.dev) | AWS EC2, Amplify, Route 53, Next.js 16, Typescript, TailwindCSS, Docker

- Architected portfolio site with Next.js and AWS Amplify, achieving 97 Lighthouse performance score through SSR and edge caching.

## TECHNICAL SKILLS

**Languages:** Go, Bash, Python, Jsonnet, TypeScript, SQL, Lua, Bazel

**Frameworks & Libraries:** React, Next.js, Node.js, Express, GraphQL, Jest, TailwindCSS, Playwright

**Infrastructure, DevOps & Cloud:** Kubernetes, Argo CD, Docker, GCP, GKE, AWS (S3, EC2, Amplify), Argo Workflow, DroneCI, Prometheus, Grafana, Ansible, Terraform, Helm, Kustomize, Kafka, Nginx, HAProxy, Rook-Ceph

**Databases:** CockroachDB, MariaDB, PostgresDB, ScyllaDB, Redis