ETHAN HUANG

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PROFESSIONAL EXPERIENCE

SpaceX, Starlink | Software Infrastructure Engineer | Sunnyvale, CA　　　　　　　　　　　　6/2025 - 1/2026

- Developed in-house Kubernetes operators in Go to manage service authentication and enable multi-regional data replication for CockroachDB, modernizing the legacy permission system and ensuring high availability across distributed clusters.
- Engineered Kubernetes custom resource conversion webhook to upgrade legacy API resources to current versions, eliminating manual migration effort and ensuring seamless cluster upgrades across deprecated resource schemas.
- Executed production database migrations with zero-downtime strategies, coordinating schema changes and data transfers while maintaining service availability and data integrity.
- Built comprehensive system monitoring system using Prometheus and Grafana, and migrated legacy alerting infrastructure to Alertmanager, improving incident response and observability across production clusters.
- Audited GCP logging infrastructure and Istio telemetry to identify redundancies, and analyzed application resource utilization to right-size Kubernetes replicas, reducing cloud costs by $50K/month.
- Deployed cert-manager and external-secrets to automate TLS certificate lifecycle and secrets management in place of Vault, standardizing environment taxonomy that improved deployment consistency and reduced manual credential rotation overhead.
- Standardized Playwright test suite configuration with consistent selection, inclusion, and exclusion patterns, improving CI pipeline reliability and reducing flaky tests.
- Modernized developer environment tooling and resolved configuration issues, enabling high developer velocity by accelerating local iteration cycles and reducing onboarding time for new engineers.
- Participated in 24/7 on-call rotation, triaging and resolving critical incidents to maintain service reliability.

Supermicro | Software Engineer | San Jose, CA　　　　　　　　　　　　　　　　　　　11/2023 - 5/2025

- Bootstrap and manage 25+ highly available, multi-region on-premises Kubernetes clusters, automating bare-metal provisioning with Ansible and ensure network reliability with Kube-VIP, MetalLB, HAProxy and Nginx.
- Spearhead the adoption of ArgoCD and GitOps as the project owner, leading its implementation and optimization to manage 20+ applications across 25+ Kubernetes clusters, improving deployment efficiency by 90%.
- Design and establish CI/CD pipelines with ArgoCD, DroneCI, Helm, and Kustomize, enhancing maintainability, scalability, and developer productivity by 50%, while showcasing deep expertise in Kubernetes and its ecosystem.
- Enhance system observability by configuring Prometheus for metric collection and Grafana for visualization.
- Construct multi-purpose containerized environments with Docker Compose, reducing setup time by 60% and optimizing image sizes by 80%, significantly boosting efficiency and resource utilization.
- Orchestrate multi-cluster data operations using ScyllaDB and Kafka, including synchronizations, migrations, and disaster recovery for 2 TB of data using Rook-Ceph, MariaDB-Galera, and Bash scripting, ensuring high availability and resilience.
- Develop 10+ mission-critical services using TypeScript, React, Express, GraphQL within a distributed system architecture, delivering robust, scalable, and user-friendly applications.

NavisX-AlluringSelf (Startup) | **Software Engineer | Remote**　　　　　　　　　　　　　3/2023 - 10/2023

- Developed a web application with 20+ custom React components, leveraging Next.js 13, TailwindCSS, Typescript and Zustand.
- Led the technical team at an early-stage startup, driving rapid product iterations in a dynamic environment.

EDUCATION

Cornell Tech, Cornell University | M.Eng. in Computer Science | GPA: 3.5 | Merit Scholarship　　　　2022

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

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Jsonnet, Python, Bash, SQL, C++, Lua

Frameworks & Libraries: React, Next.js, Node.js, Express, GraphQL, Apollo Server, Jest, TailwindCSS, C++ STL, Pandas, NumPy

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

Databases: CockroachDB, MariaDB, ScyllaDB, Redis