

Gerald Spencer

Multi-dimensional engineering leader passionate about:
Automation, CI/CD, Community Building, Devops, Kubernetes and Networking
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Education

BSc, Mechanical Engineering W/ USCG License

- *California Maritime Academy (Vallejo, CA)*
- *Licensed United State Coast Guard 3rd Assistant Engineer*

Experience

2022 - Present Cruise - Senior Site Reliability Enginner II

Scaling the Fleet Product team's services vertically, horizontally and across regions to support Cruise's commericalization plan as autonomous vehicle fleets are rolled out to new geographic regions.

2021 - 2022 Skydio - Engineering Manager - Infrastructure/Site Reliability

Leading a small team architecting, designing and operating the infrastructure and processes required to support Skydio's enterprise autonomous drone platform and the 150 engineers working on the platform.

- Architected and implemented a complete revamp of Skydio's AWS deployment in support of SOC I/II
 - Transitioned from one legacy account to an AWS organization with full SAML support for users
 - Implemented a scalable transit system to ensure secure private communication between all of Skydio's networks
- Implemented an Incident Management process and on-call systems for external and internal customers
- Championed the introduction of Kubernetes into the development lifecycle
 - Developed a Bazel & jsonnet based manifest generation library
- Uplifted legacy deployments of external services to automated highly available container based deployments
 - Reduced time to deploy from 2 hours to 15 minutes
 - Automated deployments with instantaneous rollbacks
- Revamped Continuous integration systems to scale to 5000 builds a day across 2500 ephemeral workers
- Introduced a Continuous Deployment platform leveraged by every software team at Skydio to self service repeatable / reliable deployments

2019 - 2021 Strateos - Director of Infrastructure

Designing, developing, implementing and operating the robotic cloud drug discovery labs of the future.

- Actively worked with Product to strategically develop the Eng.Org's infrastructure roadmap to meet future growth targets
 - One facility to four facilities across two continents
- Revamped legacy build systems:
 - Decreased build times by 13x and drastically increased the org's feature velocity
- Bootstrapped a multi-account AWS configuration from scratch with full infrastructure-as-code (terraform)
 - Seamlessly assimilated legacy pre-merger AWS accounts, and transferred workloads between accounts and regions
- Lead multi-disciplinary teams in converting legacy monolithic CI system(s) to a modern cloud native elastic CI system
 - Modern elastic Jenkins backed by full configuration-as-code and GitOps methodologies
- Lead an SRE team in shifting manual legacy bare metal deployments to fully automated CI/CD deployments to Kubernetes
 - Self-service and self-healing HA multi-cluster ArgoCD deployment
- Implemented, maintained and operated a cloud native observability platform comprised of: Prometheus, grafana, alertmanager, sumologic and pagerduty
- Implemented SSO via Okta for all mission-critical systems - from baremetal auth to internal apps to AWS to Eat Club
- Designed and implemented a global transit system, by utilizing AWS transit gateways to:
 - Dynamically reconfigure the global network multi-region multi-cluster kubernetes footprint with local facilities via BGP peering
 - Provide a secure intranet for employees across the country, in Singapore, France and contractors in India
- Provided mentorship and training across the teams with respect to: architecture, CI/CD, infrastructure and networking

2013 - 2019

3Scan - Director of Production Engineering

Oversaw a multi-disciplinary team of 15 - from hardware to software engineers, and biologists to product specialists - to develop a high-resolution/high-throughput 3D medical imaging system.

- Lead a team of software engineers in designing, developing and implementing a system capable of ingesting 24GB/s of imagery
 - Redesigned the original storage pipeline from a massive bare metal Ceph deployment to a cloud native objectstore backend that reached a max size of 3.8PB
- Merged a facility with the AWS cloud by executing a build out with 40Gbps of leased fiber from AWS(us-west-2) into downtown SF
 - Lead the effort for 3Scan to become officially recognized by ARIN
 - Acquire publically addressable /24 block of IPv4 space

- Owned and operated BGP routing systems with two ISPs and AWS to route imagery into S3

Technical Experience

Software/System Design

Production ready systems should be modular, composable, reliable and operation on the principle of least surprise.

Extensive experience with the following:

- **Build systems:** Bazel, CMake, Gradle, Lerna, Maven, Tox, Poetry
- **CI/CD:** ArgoCD, AWS CodePipeline, Buildkite, CircleCI, Jenkins, Github Actions, GoCD, Tekton, Travis
- **Cloud Infrastructure:** All things compute, networking, storage, security, AI/ML related to AWS or GCP
- **Configuration Management:** Ansible, Puppet, Terraform
- **Containers/Micro-services:** Docker, ECS, jib, Kubernetes, Lambda, KNative, Kubeless
- **Development Environments:** AWS Cloud9, Docker, Eclipse Che, Gitpod, IntelliJ, Vagrant
- **Edge Computing:** Akri, Balena Cloud, ioFog, AWS Greengrass, AWS IOT Core
- **Identity Management:** Active Directory, Okta
- **IT/Networking:** Managed 3Scan's AS, BGP peering with multiple ISPs and AWS. Cisco/JunoOS you name it!
- **Languages:** Bash, Python, Java, Go, Javascript, .Net, Node, Python, Scala, Typescript
- **Observability:** ELK, Grafana, Prometheus, Sumologic, Splunk
- **Operating Systems:** At home in any flavor of linux, MacOS and windows
- **Service Mesh:** Consul, Istio, Linkerd

Engineering Management

Engineering is fundamentally a creative task, and the job of a strong Leader is to maximize people's ability to get the thing they want to do done.

- **Agile methodologies:** Applied to both software and hardware
- **Project management:** From gantt charts and QFDs to task management, OKRs and KPIs
- The customer experience is key, dog-fooding is a must
- Have overseen complex multi-disciplinary teams from 2 to 15 engineers
- Deeply enjoy seeding an engineering culture that will meet the future organization needs

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