Tyler **Hampton**

Systems Engineer · SRE · Platform Engineer · DevOps Engineer

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Summary

Have led growth within infrastructure oriented teams in several different companies. Over a decade of diverse software engineering experience architecting container orchestration, observability pipelines, and developer tooling platforms.

Enthusiastic tinkerer. Open source contributor. Deeply interested in treating platform engineering initiatives as internal products where my fellow engineers are valued customers.

Work Experience

Grabango

Berkeley, CA, USA

Senior Systems Engineer AX5

September 26. 2022 - Present

- Implemented multiple, high scale Kubernetes clusters (GKE)
- Implemented pull-based Ansible across thousands of nodes
- Supported AI/inference workloads on k8s with Airflow and GPU node pools
- Built an internal platform for self-service ownership of cloud and edge infrastructure
- Designed Terraform usage patterns and code organization and led multi-month initiative to import hand-spun infrastructure into Terraform state
- Implemented a HashiCorp Nomad based orchestration system that allocated services across thousands of IoT devices as part of a hybrid infrastructure system bridging DC located Nomad and cloud located Kubernetes clusters
- Used Dagger and Go to build portable, localized CI/CD pipelines as well as wrap deployment processes for Kubernetes and Nomad
- Lead an internal architecture group involving principal engineers to improve the architecture of physical sites and introduce SRE processes for teams
- Heavily refactored SaltStack codebase to improve idempotency and general code quality as well as make use of Salt's more advanced features like orchestration and event-driven actions
- Designed a Prometheus monitoring system using Thanos to federate across multiple datacenters and Kubernetes clusters with service discovery automatically registering metrics for applications
- Managed Kafka installations across multiple datacenters and Kubernetes clusters for AI inference video pipelines
- Designed caching infrastructure for edge package architecture
- Wrote Golang based CLI tooling for the systems engineering team to automate several day-to-day tasks around ticket management, SaltStack state application, k8s automation, and more
- Authored incident response guides, production readiness review processes, and championed SRE practices

Shutterfly

Santa Clara, CA, USA

Senior Systems Engineer

June 22. 2016 - September 9. 2022

- Implemented dozens of ECS clusters spanning thousands of EC2 nodes and hundreds of microservices
- Designed several large, foundational Terraform modules that were used by 200 engineers to deploy Security Groups, ECS clusters, IAM entities, VPCs, ALBS, and more
- Designed a AWS global resource testing model that used AWS accounts as test environments for globally available resources like IAM entities
- Wrote custom reverse proxies in Go
- Wrote custom log ingress filters in Node.js on AWS Lambda for translating log entries into structured log events for Splunk ingress
- Wrote custom tooling around AWS ECS in Python to enforce draining nodes from tasks during abrupt scaling events
- Performed capacity planning in accordance with load testing results and metrics to right size capacity
- Embedded into application teams to assist them with the cloud-native architectural designs of their services
- Designed cloud logging architecture utilizing FluentD, FluentBit, and logging sidecars for log ingestion over PrivateLink into Splunk
- Wrote custom FluentBit plugins in Ruby to support generalized logging event patterns for applications running on ECS
- Wrote Terraform module to abstract AWS Kinesis Streams and then assisted teams with a migration away from Kafka
- Designed immutable OS image pipeline using Jenkins pipelines, Ansible playbooks, and Packer to produce AWS AMIs that fed into EC2 nodes within autoscaling groups
- Wrote custom integrations for running GPU dependent tasks on ECS nodes in order to support complex topographical image generation via AI/ML
- Wrote CLI tooling in Go for internal teams to automate common automation tasks
- Extended and customized aws-azure-login Node.js application to support logging into accounts federated to AWS from Azure AD via SAML
- Designed a hub and spoke model that used AWS Transit Gateway to link environments together
- Part of committee of principal, staff, and architect contributors to build a larger architectural model for a migration from data center to AWS
- Mentored several engineers over the course of my 6 years at the company

Opower / Oracle

San Francisco, USA

Software Engineer, Infrastructure and Operations

January 12. 2015 - May 23. 2016

- Authored and refactored Puppet manifests to converge data center localized hardware nodes to prepare them as Proxmox hosts
- Co-designed a distributed file system storage array using Ceph to act as shared storage layer for Proxmox VMs
- Designed resilient high-availability MySQL cluster using Heartbeat to float a VIP between multiple masters
- Maintained several applications deployed via Proxmox as VMs that were converged via Puppet
- Wrote a tool in Ruby to migrate employee objects from FreeIPA to Active Directory
- Migrated datacenter applications and Proxmox VMs to Oracle Cloud

InsideVault

San Carlos, CA, USA

DevOps Engineer

February 24. 2014 - January 15. 2016

- Managed MongoDB cluster used by SEO optimization platform
- Used Jenkins to build testing and deployment pipelines for Scala applications using sbt
- Wrote Chef cookbooks for deploying Apache Mesos cluster members to EC2
- Managed Apache Mesos cluster that was used for distributed batch processing
- Built log ingestion pipeline for Apache Mesos batch jobs to self-hosted Kibana/Logstash/ElasticSearch

Apollo Group

San Jose, CA, USA

Systems Administrator

January 23. 2012 - January 10. 2014

- Assisted with migration of Java services from physical data center to AWS
- Wrote a custom deployment web UI using Ruby, Padrino, and jQuery to integrate Chef, AWS EC2 nodes, and Haproxy to serve as the main deployment interface for over 100 engineers for dozens of Java based microservices
- Built Chef environment to administer hundreds of EC2 nodes and wrote cookbooks to handle hosted proxies, EC2 nodes, and databases
- Wrote scripts and application cookbooks in Ruby to integrate Java services with AWS dependencies
- Rewrote the aforementioned deployment tool as part of a migration from AWS to a data center platform running VMWare VSphere

Portfolio

- Revontulet - A Python based REST API that uses server sent events to emit satellite tracking notifications to embedded devices over HTTP streams
- Polarstomps - A reference Golang web application that acts as a travel itinerary that I use as a sample app for plugging into IaC that deploys cloud infrastructure
- Polarstomps Infra GCP - A reference GCP architecture that deploys a VPC, GKE cluster, etc - intended to deploy Polarstomps and is written in Terraform and Terragrunt
- Polarstomps Infra - A reference AWS architecture that deploys an EKS cluster running ArgoCD and Karpenter. Built using the TypeScript version of the Terraform cloud development kit (CDKTF)
- Find a Home - A Rails application to help Bay Area natives navigate a high cost rent market
- Calidrought - A Node.js API that aggregated California drought data from a variety of government agencies and presented it for data visualization
- BookshelfBot - An Elixir based Discord bot that queries books and displays them inline to chats. Actively maintained for a few dozen Discord servers as an official bot
- OnAir - A Golang client/server pairing that controls whether or not a radio station ‘onair‘ sign is ‘lit up‘ depending on whether or not a user is part of a Discord voice channel
- Blog - My personal blog hosted on a Nomad orchestrated homelab server where I write about cloud, programming, and homelabbing. Homelab also hosts my personal git server where some other personal projects are kept

Hobbies

- Board games, rock climbing, science fiction/fantasy books, table top RPGs, programming, 3D printing, guitar, electrical engineering/arduino

Skills

- Programming languages: Go, Elixir, TypeScript/JavaScript/Node, Python, Ruby, Groovy, SQL
- Linux: containers, Docker, TCP/IP, DNS, ZFS, eBPF
- Configuration management systems: SaltStack, Chef, Ansible, Puppet
- HashiConf tools: Terraform, Vault, Consul, Nomad, Packer
- Cloud providers: AWS, GCP
- Products: Jenkins, Dagger, Kafka, Prometheus, Grafana
- Orchestration systems: Kubernetes/k8s, AWS ECS, Mesos, Nomad
- Kubernetes products: Helm, AWS Load Balancer Controller, ArgoCD, Karpenter

Resume Source Code

- https://git.howdoicomputer.lol/howdoicomputer/resume