Aaron Collins

AI/ML Infrastructure Architect & DevSecOps Leader

About

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ML Infrastructure

Master

ML Model Deployment

Vector Databases

GPU Infrastructure

MLOps Model Serving

ML Monitoring

DevSecOps

Master

Terraform Ansible

GitOps

Infrastructure as Code

Compliance Automation

Security Scanning

Multi-Cloud Architecture

Master

AWS (Certified) Azure

GCP OCI (Oracle Cloud)

OpenShift Hybrid Cloud

Containerization

Master

Kubernetes Docker ECS

GKE AKS OKE

Container Security

Security & Compliance

Master

Summary

With 30 years of experience spanning AI/ML infrastructure, security, and DevOps engineering, I've established myself as a pioneer in containerized deployment architectures for machine learning systems. As an early cloud adopter, I've mastered multi-cloud environments (AWS, Azure, GCP, OCI, OpenShift) and developed enterprise-grade infrastructure for AI-driven applications. I specialize in creating secure, compliant, and scalable platforms that enable ML engineers to deploy models efficiently. My expertise includes implementing GitOps/MLOps workflows, achieving compliance certifications (SOC2, HIPAA, GDPR), and building robust CI/CD pipelines with comprehensive security scanning for containerized ML deployments.

Experience

YurtsAi
12/2023 - Present

Sr. DevSecOps Engineer & ML Infrastructure Architect

Lead architect for enterprise-grade ML infrastructure spanning multiple cloud providers (AWS, Azure, GCP, OCI, OpenShift). Implemented secure, compliant deployment pipelines for ML models while driving the organization through multiple compliance certifications.

- Created highly configurable multi-cloud (AWS, Azure, GCP, OCI, OpenShift) Kubernetes configurations for seamless ML model deployment
- Led company to SOC2, HIPAA, and GDPR certification by establishing comprehensive compliance policies and frameworks
- Designed and implemented robust Backup and Restore framework for critical ML data and models
- Established CI/CD pipelines with integrated security scanning (vulnerability, container, and static code analysis) for containerized ML deployments
- Created tooling to manage vector database (Qdrant) for efficient ML operations: https://github.com/analogrithems/qdrant-cli
- Developed comprehensive documentation and conducted regular training sessions for engineering teams on ML infrastructure best practices
- Designed and implemented Terraform & Grafana-based monitoring system for ML workloads
- Built advanced tooling around GitOps & MLOps to streamline model deployment workflows

Mya Systems
04/2018 - 10/2023

Sr. Staff DevOps Engineer

Designed entire cloud infrastructure with Reform/Terraform. Created custom tool suite for managing Terraform called Reform. Reform manages multiple environments, secrets, provides tooling for missing terraform features like templates, feature flags, loops etc (Some of this has since been added in terraform 0.12). Created universal CICD pipeline for company to manage all products. Regularly train engineers on design principles and peer review their code to make it better. Also responsible for tracking, and patching all security vulnerabilities in company & 3rd party code. In addition I also made,

- Custom tooling around Jira project management
- ECS/Docker management tooling
- NLP Model management tooling
- Ansible playbooks
- Developer tooling for engineers
- Training guides and workshops for engineers
- AWS Lambdas for devops automation

Chegg
08/2015 - 03/2018

Sr. Devops

Responsible for implementing software defined infrastructure, training Jr. engineers and researching new infrastructure goals. Developed automated jobs to deploy code and manage infrastructure. Helped marketing team implement blog platform and assisted engineering team debug performance issues.

- Deployed identity management solution to grant access to 1k developers across 2500 hosts
- Developed automated monitoring and provisioning system to aid in auto-scale

- Created and managed docker clusters via Spotinst and ECS to lead effort in moving from virtual servers to containers
- Created base images and deployment tools to deploy new applications to containers
- Acted as monitoring evangelist giving lots of presentations and doing lots of personal training

ActivityRez
02/2012 - 08/2015
Technical Director / Lead Developer

As Technical director and lead developer, I built a team and created an enterprise level activity reservation and booking system. The product immediately got the attention of the travel industries top players including Expedia, Disney, Pleasant Holidays, AAA etc. The system was designed as a SaSS product and featured a suite of tools for both mobile and desktop productivity. I was responsible for increasing revenue 1000% in 2012.

- Personally responsible for getting company PCI/DSS Compliant (Wrote Policies & Procedures, Created Security Awareness Training, Completed QSA Audit & Pentest Audits)
- Created and soley managed entire auto-scaling infrastructure in the cloud (Chef and autoscale groups).
- Developed global enterprise activity booking and reservation system for web and mobile
- Built and managed build pipeline for all product lines git, Jenkins, Gradle and xCode
- Built container clusters to run customer facing web apps for each env

Hilo Hattie
07/2010 - 02/2012
IT Manager/Software Engineer

As It Manager and Staff Software engineer I was responsible for several critical services for the company. The company was coming out of bankruptcy and I was hired to train new staff, build a new e-commerce site and get the corporate network infrastructure modernized and under budget.

- Rebuilt and standardized network infrastructure across all islands and migrated corporate network to AWS cloud.
- Personally responsible for getting company PCI/DSS SAQ-D Compliant (Wrote Policies & Procedures, Created Security Awareness Training, Completed QSA Audit & Pentest Audits)
- Trained IT Team on how to manage POS systems and support accounting and ERP services
- Developed multiple ecommerce sites using C#, Java and PHP
- Implemented company first change control program.
- Created company first build pipeline with Jenkins, Maven and git

Computer Science Corporation
08/2008 - 07/2010
Lead IT Engineer/Programmer

Took a troubled observatory and turned it around by training the existing IT team and teaching them the skills to administer the legacy Irix/Solaris/Linux infrastructure. Then got to work on modernizing the site. Designed and implemented a modern Linux/Windows infrastructure with emphasis on stability and security. Implemented enterprise LDAP infrastructure to manage systems. Wrote first ever site infrastructure documentation (War book). Upgraded and re-baselined all Switches, Routers and Firewalls. Got site Airforce EITDR certified (Security Requirement). Received multiple awards for my work from the Airforce, Boeing and CSC.

- Obtained DOD TS Clearance
- Updated and secured entire site network.
- Developed an opensource LDAP management webapp to manage provisioning users and password policy for entire site
- I was hand picked by the Air Force to design new Space Program Observatory Control Kit (S.P.O.C.K.) in C++ & QT.
- Created new build and release systems for mine and other engineering teams apps
- Was sent to other Air Force Bases to implement my software
- Setup sites first monitoring service and trained staff on monitoring and updating it
- Got Security+ certified

HIC
04/2004 - 08/2008
Senior Systems Analyst and Security Analyst

Originally hired as the release engineer for the State of Hawaii web portal ehawaii.gov. I was quickly put in charge of managing all operations projects. As I advanced the network to a stable enterprise state, I was then put in charge of managing all security projects. This included certifying the infrastructure against HIPAA, SOX, PCI/DSS. Developed documentation portal using MediaWiki + LDAP Auth to keep all docs current. As the systems analyst I designed and managed a high availability Linux based Apache/Tomcat web farm. Managed and secured routers and firewalls (BPG & OSPF).

- Developed Ant & Maven build and release scripts
- Performed security audit of entire network
- Patched and updated entire infrastructure

- Created fault tolerant site with load balanced backup site
- Created custom corporate security tools to audit and alert for other state sites (Won company award for this work)
- Created SNMP based usage trend analysis to predict upgrade budget requirements
- Developed web applications using PHP, Perl and Java
- Administered Oracle and MySQL database servers

Development Guru
Consultant

02/2003 - 09/2005

I did onsite consulting for clients to manage and lockdown networks. Performed Novell to Windows migrations. Created managed turnkey firewalls for client sites that allowed for remote administration. Administered Windows 2000 Active Directory implementations for 10K users. Developed BSD NIS support in C for Samaba Project. Managed all IT projects for clients. Developed meta directory applications in Perl and C. Wrote Meta Directory White Papers. Developed automated desktop re-image software solution. Configured and managed Sonicwall Firewalls and Cisco Routers and Switches. I did on call 24/7 Support as well as IDS monitoring and vulnerability scanning/mitigation.

GTC Telecom
Lead Internet Infrastructure Engineer

08/2001 - 12/2002

I was relocated to California at the age of 19 to rescue a failing Internet Service. Within 6 months I had taken the ISP from 5k to 20k customers. Developed companies Disaster recovery policy and network security policy. Developed secure redundant firewalls, enterprise class LDAP infrastructure to manage all customers, customer web portal (using SSO via the previously mentioned LDAP) and custom AOL style signup CD.

- Created customer support training guides
- Performed security awareness training for handling customer credit cards
- Built company first VMWare cloud cluster to manage ISP and make it highly available.

Dancris Telecom
Network Administrator, Tech Support Manager

03/1998 - 06/2001

Starting in tech support I quickly became the manager of tech support and the systems administrator for a large ISP. I administered Linux, Windows and Solaris servers. Managed Apache and IIS web farms. Installed and managed the internal exchange server as well as customer sendmail/postfix servers. Trained and managed entire tech support staff. Developed billing software in Perl and C. Managed Cisco Routers and configured ATM circuits for DSL.

Education

CompTIA Security+
02/2010 - 02/2010

Meets the ISO 17024 standard and is approved by U.S. Department of Defense to fulfill Directive 8570.01-M requirements.

AWS
Associate AWS Certified Developer

11/2017 - 11/2019

Awards

Boeing Excellence award
Boeing

Granted for my effort in training the staff and developing a new fibre infrastructure

Boeing Excellence award
Boeing

Granted for my efforts to develop a new Observatory control system

References

❝ *Sr. Devops Engineer & Sr. Security Engineer at Chegg*

— Tim Galyean <tim.o.gray@gmail.com>

❝ *Lead Developer / Co-Worker for ActivityRez*

— Alex Boatwright <drdelambre@gmail.com>

❝ *Linux System Engineer/Architect at Agile Defense!*

— Boyd Ako <boyd.hanalei.ako@gmail.com>

> **Developer for ActivityRez & Chegg Inc**

— Patrick Leonard <dreamtear@gmail.com>

> **Partner Unity Crayons & Downbeat Diner**

— Josh Hancock <josheightysix@gmail.com>