

# IAN DOUGLAS

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## SECURE PLATFORM ENGINEERING | EVERYTHING-AS-CODE

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*Delivering scalable secure solutions that transform business strategy into adaptive, automated architecture with just enough human-in-the-loop.*

## EXPERIENCE

### Kings Mountain Security

#### Security Architect & Staff Engineer | January 2025 – Present

- **Strategic Advisory:** Co-founded a zero-trust specialized security consultancy based in Palo Alto delivering 'Zero Trust Capability Packages' via tactical, high-impact engagements.
- **Compliance Automation:** Developing progressive 'Security-as-Code' modules to automate DoD Zero Trust compliance within modern infrastructure lifecycles.
- **Platform Delivery:** Implementing container-based CI/CD pipelines for high-integrity, secure web deployments.
- **Stack:** Zero Trust Frameworks, Security-as-Code, Containerization, CI/CD, Astro.

### FlowDelta Trading

#### Software Engineer | March 2025 – Present

- **Quantitative Strategy:** Developing a multi-horizon, medium-frequency (MFT) strategy analysis platform using Python, Pandas, and VectorBT Pro.
- **Probabilistic Modeling:** Validating strategy robustness via Monte Carlo simulations on synthetic time-series data to model volatility-clustering.
- **Systems Engineering:** Partnering with traders to transform complex financial concepts into testable, automated trading systems.
- **Stack:** Python, Pandas, VectorBT Pro, Monte Carlo Simulations, Synthetic Time-Series modeling.

### ZagTech

#### Senior Platform Engineer | April 2024 – December 2024

- **Acquisition & Transition:** Facilitated the technical architectural handover during acquisition by a national MSP; declined a retention offer to launch Kings Mountain Security.
- **Modular Infrastructure:** Architected and authored Azure IaC to deliver Azure Kubernetes (AKS) and VM Scale Sets (VMSS) as scalable, modular service stacks.
- **Developer Velocity:** Increased deployment speed and reduced operational risk by implementing GitOps workflows and custom tooling in Go and Python.
- **Stack:** Azure (AKS, VMSS), Terraform, Go, Python, GitOps.

## Invitae Biosciences

### Senior Platform Engineer | July 2023 – April 2024

- **Corporate Restructuring:** Tenure concluded due to corporate insolvency following adverse IP litigation regarding core technology.
- **Production Hardening:** Developed **Cluster Security Audit** tooling to perform Day Zero hardening and CIS compliance for petabyte-scale genomics data flows.
- **Resilient Operations:** Executed zero-downtime Kubernetes upgrades and stateful workload migrations using Jenkins, Terraform, Terragrunt, and Flux CD.
- **Secrets Orchestration:** Designed an enterprise secrets-management solution leveraging SOPS, AWS KMS, and Shamir Sharding
- **Stack** Kubernetes, Flux CD, Terraform, Terragrunt, SOPS, AWS KMS, Python.

## Pearson

### Senior Cloud Platforms Engineer | September 2019 – August 2021

- **Self-Hosted Kubernetes:** Operated Internal Developer Platforms (IDP) managing **self-hosted Kubernetes clusters on AWS EC2** via a GitOps model.
- **Distributed Observability:** Engineered a scalable log aggregation solution leveraging Fluentd, Python, AWS Lambda, and Elasticsearch.
- **Infrastructure Lifecycle:** Redesigned EKS cluster modules to modernize container orchestration strategies and reduce operational toil.
- **Stack** Self-hosted K8s, AWS (EC2, EKS, Lambda), Terraform, Terragrunt, Go, Ansible, Python, Fluentd, Elasticsearch.

## Stanford University

### DevOps Engineer | Security Architect | December 2015 – September 2019

#### Cloud Engineering & Transformation (2017–2019)

- **Collaborative Identity Modernization:** Partnered with IAM teams to architect transition of Identity services (LDAP/Kerberos) to **self-hosted Kubernetes**.
- **Infrastructure Enablement:** Delivered the foundational "vanguard" Identity stack required by all subsequent core infrastructure teams during the cloud transformation initiative.
- **Stateful Orchestration:** Engineered replication logic, automated DB restoration, and CI/CD pipelines for multi-master LDAP and Kerberos services.
- **Secrets Management:** Managed Vault clusters as part of a three-person team, providing multi-tenant PKI, authentication proxies, and encrypted storage.

#### Core Infrastructure (2015–2017)

- **Zero-Trust Architecture:** Authored a reference implementation for cloud-resident Active Directory via IPv6 / IPsec mesh
- **Internal Recruitment:** This foundational architecture served as a catalyst for recruitment to the central Cloud Engineering team.

- **Alignment & Hardening:** Coordinated a university-wide hardening initiative, aligning technical implementers across diverse IT units to secure critical assets.
- **Anomalous Threat Detection:** Partnered with security colleagues to deploy and tune machine-learning-based event anomaly detection systems.
- **Stack** Self-hosted K8s, HashiCorp Vault (PKI), OpenLDAP, Kerberos, IPsec, IPv6, AWS, Python.

## Marvel Heroes (Gazillion Entertainment)

### DevOps Engineer | June 2014 – December 2015

- **High-Concurrency Scaling:** Supported DevOps for a flagship title with 40k+ Daily Active Users (DAU) and weekly production releases.
- **Database Orchestration:** Mechanized complex schema changes and SQL management tasks via PowerShell remoting to unblock high-velocity release cycles.
- **Performance Tooling:** Rewrote cluster operations tools from Python to PowerShell, reducing service drain times from 6 minutes to 25 seconds.
- **Stack** PowerShell, SQL Server, Puppet, Python, Elasticsearch, .NET management libraries.

## Two Sigma

### Systems Engineer | May 2012 – June 2014

- **Bare-Metal Engineering:** Automated the image build, deployment, and configuration of high-performance servers and database systems for a top-tier quantitative hedge fund.
- **Fleet Automation:** Implemented a machine deployment service spanning 3 datacenters and multiple distribution points.
- **Stack** Bare-Metal Provisioning, High-Performance Linux, Automation Tooling.

## Columbia University

### Systems Engineer | June 2010 – May 2012

- **Infrastructure:** Ran ESX, storage, and VM infrastructure supporting Columbia's 22 libraries.
- **Stack** VMware ESX, Storage Area Networks (SAN), Bare-Metal.

## SKILLS

- **Orchestration:** Self-Hosted Kubernetes (Expert), EKS, AKS, GKE, Docker, VM Scale Sets, ESX.
- **IaC & GitOps:** Terraform, Terragrunt, Ansible, Puppet, Packer, Helm, Argo CD, Flux CD.
- **Security & Identity:** HashiCorp Vault, Zero Trust, Kerberos, SOPS, Active Directory / Entra ID.
- **Languages:** Go, Python, Bash, PowerShell, SQL, Wolfram.
- **Data Systems:** PostgreSQL, MongoDB, Elasticsearch, MS SQL, CosmosDB, AWS Lambda.

## EDUCATION

### The University of Denver

- Bachelor's Degree: Mathematics & Philosophy (Double Major).