Noah Frost — DevSecOps Engineer

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Profile

DevSecOps Engineer focused on delivering secure, scalable cloud infrastructure with integrated security automation. Built 17 production systems in 4 months. Experienced in AWS, Kubernetes, and GitOps workflows, with expertise in shift-left security practices and compliance scanning. Strong background in SIEM integration, container security, and infrastructure as code. Proven ability to streamline deployments and strengthen security posture through automated CI/CD pipelines.

Skills

Cloud & Infrastructure: AWS (EC2, VPC, S3, IAM, EKS, ECS, Lambda, GuardDuty, CloudWatch), Azure, GCP

Container & Orchestration: Kubernetes, Docker, Helm, ArgoCD   **DevOps & CI/CD:** GitHub Actions, Git

Infrastructure as Code: Terraform, Ansible   **Programming:** Node.js, Python, JavaScript, Bash

Security & Compliance: Semgrep, Trivy, Gitleaks, OWASP ZAP, Checkov, Sentinel, OPA Gatekeeper

Monitoring & Observability: Prometheus, Grafana, Datadog, OpenCost, Splunk SIEM   **Linux**

Platform & Integration: Apache Kafka, Strimzi, Backstage, MLflow, Model Context Protocol (MCP)

Professional Experience

DevSecOps Engineer [Bootcamp], KubeCraft   07/2025 — Present | Remote
- Share technical insights from **17 DevSecOps projects** with **600+ member** community, demonstrating production implementations and architectural patterns
- Mentor engineers through code reviews and troubleshooting sessions, helping solve real-world infrastructure and security automation challenges
- Contribute to **3x weekly** community sessions, providing guidance based on hands-on experience building cloud platforms and CI/CD pipelines

DevSecOps Engineer [Self Directed], Self Employed   02/2025 — Present | Remote
- Designed and deployed **17 production-grade systems** including **Backstage developer platform** achieving **70% cost reduction** via hybrid **EKS/ECS** architecture, implementing secure clusters with **Terraform** and **100% Checkov compliance**
- Built event-driven **FinOps platform** using **Apache Kafka** streaming (Strimzi operator) with **OpenCost** for real-time cost monitoring, achieving **<30 second anomaly detection** and increasing **GPU utilisation from 60% to 85%**
- Implemented **Policy as Code** governance using **HCP Terraform Sentinel** and **OPA Gatekeeper** on **Kubernetes**, preventing unauthorised resource provisioning and ensuring **EU AI Act** compliance
- Configured multi-cloud orchestration with **Ansible** and **Datadog** monitoring, deploying infrastructure across **AWS/Azure/GCP** in **12 minutes** using **GitOps** workflows
- Automated security scanning across **CI/CD** pipelines using **GitHub Actions**, integrating **Semgrep** (SAST), **Trivy** (containers), **Gitleaks** (secrets), and **OWASP ZAP** (DAST)
- Developed **Model Context Protocol** servers for AI-augmented operations, enabling natural language queries for **Kubernetes** cluster management and automated security incident analysis
- Integrated **Splunk SIEM** with **AWS CloudWatch** and **GuardDuty**, centralising security event monitoring with **Lambda** functions for real-time streaming
- Documented reference architectures creating **open-source** repositories with **700+ commits**, currently developing **AEGIS, FORGE, and SENTINEL** - comprehensive AI security toolkit addressing **OWASP Top 10 for LLMs**

DevSecOps Engineer [Bootcamp], Cyber Agoge   09/2024 – 02/2025 | Remote
- Completed intensive **6-month DevSecOps bootcamp** at one of UK's largest programs - **first graduate in program history invited by CISO to teach fortnightly project implementation lectures**
- Conducted threat modelling exercises using **STRIDE** and **MITRE ATT&CK** frameworks, identifying vulnerabilities and designing security controls for enterprise cloud architectures
- Built and secured **AWS** infrastructure implementing **GuardDuty**, **VPC** security, and **IAM** policies with least privilege access controls across multi-tier applications
- Developed incident response playbooks and implemented **SIEM** solutions for real-time security monitoring with automated alerting for ransomware and DDoS scenarios

Police Constable, Metropolitan Police   02/2022 – 09/2023 | London, UK
- Completed rigorous police training through **Degree Holder Entry Programme (DHEP)**, developing investigative and analytical skills directly applicable to security incident response
- Selected as **Deputy Captain** by cohort peers, demonstrating leadership in high-pressure operational environments
- Held **RV/CTC clearance**, demonstrating proven vetting for sensitive roles and trustworthiness required for handling critical infrastructure

Projects

Multi-Cloud Orchestration
- Built unified platform deploying **AWS**, **Azure**, and **GCP** infrastructure simultaneously in **12 minutes**
- Implemented **GitOps** workflow with **GitHub Actions** triggering parallel **Terraform** provisioning across all clouds
- Developed OS-adaptive **Ansible** playbooks detecting **RedHat**/**Debian** for consistent **nginx** configuration
- Deployed **Datadog EU** agents providing single-pane-of-glass monitoring with **100% configuration parity**
- Configured unified **SSH** keys and **security groups** across **VPC**, **VM**, and **compute** resources

AI Governance Framework
- Built dual-layer governance with **Sentinel** and **OPA** blocking £10K+/month unauthorised **GPU** provisioning
- Implemented **HCP Terraform** policies preventing **p3.2xlarge** instances (£3.06/hr) before provisioning
- Deployed **OPA Gatekeeper** on **AWS EKS** enforcing **ML model** tracking with clear policy violations
- Achieved **100% compliance** with mandatory versioning and team attribution via **Kubernetes** admission control
- Reduced **EU AI Act** compliance reporting from 2 weeks to 2 hours through automated audit trails

AI FinOps Platform
- Built real-time cost platform processing millions of events through **Apache Kafka** streaming on **AWS EKS**
- Deployed **Strimzi Kafka** operator with 3 brokers and 23 partitions for **GPU** and **API** cost events
- Implemented **OpenCost**, **Prometheus** and **Grafana** achieving **<30 second anomaly detection**
- Prevented £100K+ monthly overruns through event-driven monitoring of **gpu-utilisation** and **ai-api-costs**
- Configured complete **Terraform** infrastructure with **VPC** networking and **Helm** chart deployments

AI Developer Platform
- Built self-service platform reducing AI model deployment from **2 weeks to 30 minutes** using **Spotify Backstage**
- Architected **hybrid EKS/ECS** design achieving **70% cost reduction** through intelligent workload placement
- Integrated **MLflow** for model tracking and **OpenCost** for real-time GPU cost monitoring
- Deployed **GitOps with ArgoCD** managing **Helm** deployments across development and production
- Configured **AWS infrastructure** with **Terraform** including EKS clusters, ECS Fargate, and IAM roles

MCP Meets K8s
- Implemented **one of first Kubernetes MCP integrations** enabling natural language cluster operations
- Built production DevSecOps platform with **AWS EKS**, **ArgoCD GitOps**, and **Prometheus/Grafana**
- Enabled AI troubleshooting where **"What's broken?"** returns instant analysis with remediation
- Integrated **Checkov**, **Semgrep**, **Gitleaks**, **Trivy** for complete security scanning pipeline
- Deployed **Terraform** infrastructure with **Node.js MCP server** connecting to **Claude Desktop**

GitOps with ArgoCD & Monitoring
- Deployed production **GitOps** workflow using **ArgoCD** on **AWS EKS** achieving **2 minute deployments**
- Implemented **Prometheus** and **Grafana** observability stack via **Helm** charts with pre-built dashboards
- Configured self-healing **Kubernetes** deployments where **ArgoCD** continuously ensures cluster matches **Git** state
- Resolved complex **Prometheus** CRD failures using **ServerSideApply** and debugged **DNS/Terraform** issues
- Built **Terraform** modules for complete **AWS** infrastructure: **VPC**, **EKS** cluster, **IAM** roles with least privilege

End-to-End DevSecOps Transformation
- Built secure **CI/CD pipeline** using **GitHub Actions** with integrated **security scanning** across SDLC
- Deployed to **AWS EKS** with **Docker** containerisation and **Kubernetes** orchestration
- Automated security tools: **Semgrep** (SAST), **Trivy** (containers), **Gitleaks**, **OWASP ZAP**, **Checkov**
- Developed **Lambda** functions for **GuardDuty** to **Splunk SIEM** streaming via **CloudWatch** events
- Achieved **100% IaC automation** with **Terraform** provisioning **VPC**, **EC2**, **S3**, and **IAM** security

For 10+ More Projects - Noahfrost.co.uk

Certificates

CompTIA Security+   **AWS Certified Cloud Practitioner**

HashiCorp Certified: Terraform Associate

AWS Certified Solutions Architect — Associate — IN PROGRESS

Education

Law (Criminal Justice) LLM, Northumbria University   09/2023 — Present
Final Term Paused

Criminology BSc (Hons), University of Chester   09/2016 — 09/2020