

Robert Teah

Senior DevOps / Platform / SRE Engineer · AI Infrastructure & Reliability Automation

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PROFESSIONAL SUMMARY

Senior DevOps / Platform / SRE Engineer with 10+ years of experience operating production infrastructure at enterprise scale across AWS and Kubernetes environments. Built and ran mission-critical e-commerce and retail systems at Luxottica (99.99% uptime) and multi-region SRE infrastructure at Home Depot (35% faster incident detection, 15% cost reduction). Specializes in CI/CD automation, EKS orchestration, Terraform IaC, and Prometheus/Grafana observability — with a practical focus on deployment reliability, incident response, and production engineering tradeoffs. Extends that infrastructure foundation into AI systems through AutoSRE, Reliai, and WebIntell: distributed, Kubernetes-native platforms for LLM observability, autonomous remediation, and operational intelligence.

CORE ACHIEVEMENTS

- Reduced deployment times by 50% at Luxottica by building end-to-end GitHub Actions / CodePipeline workflows with Trivy image scanning, Helm chart promotion, and blue/green rollout controls across EKS.
- Improved incident detection speed by 35% at Home Depot by implementing SLIs/SLOs, Prometheus alerting pipelines, and Grafana dashboards — replacing reactive monitoring with signal-driven observability.
- Achieved 99.99% uptime across multi-region AWS production infrastructure by designing self-healing EKS autoscaling, RDS Multi-AZ failover, and Terraform-codified disaster recovery workflows.
- Cut AWS infrastructure costs by 15% at Home Depot through load testing, EC2 right-sizing, S3 lifecycle optimization, and autoscaling policy tuning.
- Reduced environment provisioning from hours to under 30 minutes by building modular Terraform infrastructure with S3 remote state and DynamoDB locking, eliminating manual provisioning errors across teams.
- Resolved Route 53 / ALB misconfiguration causing 503 errors under traffic spike conditions; implemented automated DNS validation to prevent recurrence and cut similar incidents to zero.
- Pioneered Kubernetes adoption at Luxottica, containerizing microservices for 3 development teams (Java, Golang, Python), implementing EKS ingress routing, HPA tuning, and liveness/readiness probe standards.
- Built AI-powered incident triage, LLM observability, and autonomous remediation infrastructure across AutoSRE, Reliai, and WebIntell — positioning AI workflows as production-operable distributed systems.

DEVOPS AI & RELIABILITY ENGINEERING PROJECTS

AutoSRE — *AI-Driven Incident Response Platform*

- Built distributed, Kubernetes-native incident triage system using FastAPI backend services and LLM orchestration; designed to reduce operational cognitive load by correlating alerts, logs, and infrastructure state automatically.
- Developed autonomous remediation workflows with human-in-the-loop approval gates — balancing automation speed against production safety, a tradeoff explicitly designed to prevent unsafe auto-remediation.
- Implemented AI-assisted alert summarization and operational intelligence pipelines, reducing mean triage time and eliminating fragmented context across metrics, incidents, and deployment history.

Reliai — *AI Reliability & Observability Platform*

- Built trace-based observability system for LLM applications where traditional infrastructure metrics (CPU, memory, uptime) were insufficient — failures originated from inference latency, prompt execution, and orchestration logic.
- Developed evaluation pipelines and AI guardrails to enforce reliability standards across model behavior, addressing the fundamental challenge that AI systems generate probabilistic failures not caught by standard alerting.

- Implemented inference monitoring and AI runtime observability dashboards, enabling production-grade debugging of LLM workflows that previously had no operational visibility layer.

WebIntell — *Agentic Intelligence Infrastructure*

- Designed scalable AI orchestration infrastructure on Kubernetes-native compute using FastAPI distributed backend services, Redis/PostgreSQL operational stores, and asynchronous ingestion pipelines.
- Built evidence-chain correlation and prioritization systems — a distributed systems engineering challenge requiring workload isolation, API orchestration, and operational reliability across high-volume AI workflows.
- Identified and resolved orchestration bottlenecks caused by synchronous API dependencies; redesigned with async processing patterns, improving pipeline throughput and reducing operational fragility.

PROFESSIONAL EXPERIENCE

AWS DevOps Engineer — **Luxottica North America**

Oct 2021 – Apr 2025

Project VisionLens — E-commerce microservices platform supporting Java Ad Service, Golang Product Catalog, and Python Recommendation Service development teams.

- Designed and built end-to-end CI/CD pipelines using GitHub Actions and AWS CodePipeline with automated build, Trivy vulnerability scanning, Docker image promotion, and Helm chart deployments to EKS — cutting release cycle time by 50%.
- Deployed and operated production EKS clusters supporting multiple microservices teams; tuned HPA thresholds, resource requests/limits, and liveness/readiness probes to eliminate rollout instability caused by probe misconfiguration and resource contention.
- Implemented blue/green and canary deployment strategies enabling zero-downtime releases during high-volume retail events; introduced rollback automation triggered by health check failures, reducing blast radius on bad deploys.
- Standardized infrastructure provisioning using modular Terraform (VPC, EKS, RDS, IAM, Route53); configured S3 remote state with DynamoDB locking, eliminating race conditions across concurrent team deployments.
- Orchestrated Route53 + ALB integration for custom domain routing across multiple microservices using Kubernetes Ingress; resolved a production 503 incident caused by DNS misconfiguration under load and implemented automated validation to prevent recurrence.
- Integrated Prometheus and Grafana monitoring across EKS workloads; configured Alertmanager with Slack integration for real-time incident notification, improving production visibility and reducing MTTR.
- Embedded Trivy container scanning and AWS Secrets Manager / Kubernetes Sealed Secrets into CI/CD; enforced least-privilege IAM policies and RBAC controls across all EKS workloads.
- Led knowledge-transfer sessions on Kubernetes and Terraform for junior engineers; within 3 months, team members were independently deploying to EKS and provisioning infrastructure without senior support.

AWS Site Reliability Engineer — **Home Depot**

Jul 2019 – Oct 2021

- Designed and codified multi-region AWS infrastructure using Terraform across EC2, RDS Multi-AZ (geo-replicated), S3, Route53, and EKS, maintaining 99.99% uptime for mission-critical e-commerce systems.
- Implemented SLIs/SLOs with Prometheus and Grafana; replaced reactive alert storms with signal-driven dashboards, improving incident detection speed by 35% and reducing alert fatigue across on-call rotations.
- Built self-healing architectures: automated RDS failover testing, EC2 auto-recovery, and EKS pod restart policies — reduced manual operational intervention by 40% after a production RDS failover misconfiguration caused a peak-window outage.
- Led blameless postmortem process across distributed teams, implementing systematic root cause analysis and long-term fixes; each postmortem produced automated validation to prevent recurrence class.
- Conducted capacity planning and load testing, identifying autoscaling misconfiguration and bottlenecks; right-sized EC2 instances and tuned autoscaling policies, reducing AWS costs by 15%.
- Built synthetic monitoring pipelines and custom CloudWatch dashboards to detect latency degradation before customers reported issues; integrated SNS alerting across engineering and on-call teams.
- Automated operational toil using Bash and Python scripts: EC2 patching, log archival, DB backup rotation — reducing manual effort by 40% across routine operations.

AWS Cloud Engineer — FutureMedia

Jun 2013 – Jul 2019

- Designed fault-tolerant AWS architectures for large-scale media streaming platforms with defined RPO/RTO targets; implemented cross-region replication, EBS snapshots, and S3 versioning for disaster recovery.
- Built Terraform-based infrastructure automation at scale: VPCs, subnets, NAT gateways, IAM roles, and CloudFormation templates — migrating legacy on-prem workloads to AWS with consistent, repeatable provisioning.
- Implemented cloud cost management through budget monitoring, resource tagging, cost allocation strategies, and AMI hardening — optimized streaming platform costs by 20% over two years.
- Participated in 24/7 on-call rotations; conducted infrastructure assessments and implemented security controls (encrypted RDS, IAM least-privilege, centralized CloudWatch logging) across multi-tenant media environments.

TECHNICAL SKILLS

Cloud & Platform: AWS (EC2, EKS, ECS, IAM, VPC, Route53, CloudFront, RDS, S3, Lambda, CloudWatch, CodePipeline, Secrets Manager)

Kubernetes & Containers: EKS, Docker, Helm, HPA, Cluster Autoscaler, Ingress (ALB), Liveness/Readiness Probes, RBAC, Sealed Secrets, ArgoCD (GitOps)

Infrastructure as Code: Terraform (modular, remote state, DynamoDB locking), CloudFormation, Ansible

CI/CD: GitHub Actions, AWS CodePipeline / CodeBuild / CodeDeploy, Jenkins, GitLab CI, Trivy, artifact promotion, blue/green, canary, rolling deployments

Observability & Reliability: Prometheus, Grafana, Alertmanager, CloudWatch, Dynatrace, SLIs/SLOs, synthetic monitoring, incident response, RCA, blameless postmortems

AI Infrastructure & LLMops: AI Platform Engineering, LLM Observability, Autonomous Remediation Workflows, Inference Monitoring, AI-Assisted Incident Response, RAG for Operational Knowledge Bases, LLM Evaluation & Guardrails, Agentic AI Workflows, OpenAI API Integration

Programming & Backend: Python, Bash, YAML, FastAPI, PostgreSQL, Redis

Networking & Security: VPC design, NAT gateways, ALB/NLB, Route53, IAM least-privilege, KMS encryption, AWS WAF, CloudTrail

EDUCATION & CERTIFICATIONS

- AWS Certified Solutions Architect – Associate
- Udacity Nanodegrees — Cloud DevOps Engineer, AWS Architect, Site Reliability Engineering
- Clayton State University — Bachelor of Science in Information Technology