Kaushik Kumaran

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Education

Boston University **Jan 2025**
Master of Science in Computer Information Systems *Boston, MA*

Experience

IBM **May 2024 – Present**
*Site Reliability Engineer (**TLS Top Performer '25**)* *Austin, Texas*

- Eliminated **1,500+ hours of annual manual toil** for **7,000+ VMs** by building a multi-API pipeline; accelerated data retrieval by **93% (30m to 2m)** and reduced maintenance prep time by **92% (1hr to <5m)** via a custom **Go-based CLI**.
- Advanced **global system reliability** by co-developing a **Chaos Engineering & Regression Framework**; utilized **Instana APIs** for deep-dive **RCA** and error tracing to resolve **30+ critical infrastructure defects** prior to customer impact.
- Architected an **AI-driven data infrastructure** by engineering a **scalable Python ingestion engine** and **MCP server** to automate unstructured data lifecycles into a **Qdrant Vector Database**; utilized a dynamic schema engine to provide autonomous agents with real-time, context-aware data for complex query resolution.
- Redesigned **IBM DevSecOps pipelines** by implementing a **dynamic trigger architecture** that handles n repositories via a single configuration, **centralizing secret scanning** and PR workflows to ensure **100% security compliance**.
- Reduced **global deployment time by 66% (3hrs to 1hr)** per datacenter by automating **Helm-based deployments** on **OpenShift**, replacing **23 manual configuration files** with a **single, dynamic automation source**.
- Engineered an **API-driven alert suppression system** that eliminated maintenance false positives; integrated **ServiceNow Change Request logic** to dynamically update **Instana windows** across 25 global datacenters, significantly reducing operational noise and page fatigue.

Searce Inc **June 2022 – June 2023**
Cloud Engineer *Bangalore, India*

- Increased **monitoring reliability by 40%** and reduced server crashes by 50% by migrating a Self-Managed Prometheus setup to **Google Managed Prometheus (GMP)**; resolved 10+ critical configuration issues during the transition.
- Executed **E2E Cloud Migrations** for enterprise clients using **Velostrata** and **v5 Migrate**; modernized legacy environments into optimized, cloud-native architectures.
- Boosted **operational efficiency by 40%** by developing custom Python-based automation; optimized cloud architectures to significantly reduce infrastructure overhead and monthly spend.

Technical Skills

Languages: Python, Bash, Shell Script, Go, SQL, GraphQL
Cloud: Google Cloud, AWS, IBM Cloud, Azure, IBM Power Cloud, IBM PowerVC
Technologies/Frameworks: Terraform, Ansible, Pulumi, Kubernetes, OpenShift, Docker, Helm, Jenkins, Tekton, Git Actions, Puppet
Monitoring/Logging: Prometheus, Grafana

Projects

ArgusAI - K8s Security System | *Kubernetes, eBPF, Cilium, Falco, ReactTS* | *CodeBuildder/argus-k8s*

- Architected an **AI-driven multi-layer observability system** capturing network (L2/L3) and kernel-level signals via eBPF, enabling **real-time threat analysis**.
- Built a **threat detection and AI evaluation pipeline** that correlates low-level telemetry with the **MITRE ATT&CK framework**, transforming raw infrastructure signals into actionable insights.
- Implemented **autonomous remediation with Human-AI (HAI) oversight**, integrating Cilium and Falco to execute **pod isolation and process termination** while maintaining interpretable human control.
- Designed **chaos threat injection workflows** to simulate adversarial scenarios, enabling **evaluation of detection accuracy and reasoning robustness** under failure conditions.
- Delivered an **end-to-end platform** with a **71-test CI/CD pipeline** and a ReactTS control interface, bridging low-level observability with high-level decision-making.