

# David Laing

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## Summary

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Engineering leader with 15+ years experience building reliable systems at scale. Specialized in SRE practices, platform engineering, and data reliability. Led teams maintaining 100PB data infrastructure at Shopify and \$3.5M/minute commerce traffic. Expert in Kubernetes, observability, and incident management. Passionate about building sustainable engineering practices that enable long-term reliability. Currently pioneering AI agent orchestration for infrastructure automation while maintaining deep expertise in traditional SRE disciplines.

## Education

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<b>University of Cape Town</b> , Bachelor of Business Science (Honours) in Information Systems	Jan 1997 – Dec 2000
• Information Systems • Statistics	

## Experience

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**Staff Software Engineer - AI Context Engineering Lead**, Mechanical Orchard – San Francisco, CA Sept 2023 – present

- Pioneered AI agent orchestration for Kubernetes/Terraform automation - creating environments where AI agents collaborate and self-correct
- Built and maintained cloud infrastructure on GCP and AWS for legacy system modernization platform
- Implemented infrastructure as code practices using Terraform and Helm for reproducible deployments
- Established monitoring and observability practices for cloud-native applications

**Senior Staff Reliability Engineer**, Shopify Ltd May 2022 – July 2023

- Maintained platform reliability during \$3.5M/minute peak traffic (BFCM) through data-driven monitoring and incident response
- Pioneered data reliability engineering practices for 100PB data lake infrastructure serving millions of merchants
- Applied long-term reliability thinking to commerce platform with complex distributed systems architecture
- Implemented SLI/SLO frameworks and error budgets for critical business services
- Led incident response and post-mortem processes for high-severity outages

**Staff 2 Software Engineer (Data)**, VMware Ltd May 2020 – Apr 2022

- Built and maintained dagster.io data pipelines for cross-portfolio analytics at enterprise scale
- Established telemetry gathering and data curation practices for R&D insights across multiple product lines
- Created automated data quality monitoring and alerting systems
- Designed data-driven feedback loops for business unit strategic decisions

**Director of Engineering/SRE**, Pivotal Software Ltd Dec 2015 – Apr 2020

- Built SRE team from scratch to operate Cloud Foundry and Kubernetes platforms serving enterprise customers
- Established reliability practices for pivotaltracker.com (1M active users) with 99.9% uptime SLA
- Collaborated directly with Google SRE engineers on SLI/SLO design and error budget implementation
- Orchestrated balanced leadership team driving shared outcomes across ~80 R&D teams globally
- Implemented comprehensive incident management processes and on-call rotation practices
- Created data-driven understanding of enterprise customer upgrade challenges reducing deployment friction

**Co-founder**, StayUp.io Ltd Mar 2015 – Dec 2015

- Created open-source ELK distribution handling 2TB daily log ingest for Cloud Foundry ecosystem
- Built comprehensive logging and observability solution from concept to acquisition in 7 months
- Established monitoring and alerting practices for distributed systems at scale

**R&D Team Leader**, City Index Ltd – London, UK Dec 2008 – Mar 2015

- Led LogSearch open source project for Cloud Foundry ecosystem log aggregation and observability

- Pioneered migration to public cloud infrastructure for financial services workloads
- Established TDD, CI/CD, and Agile practices across development teams
- Led organizational transition to open-source software adoption and modern tooling

## Publications

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### SRE & the Vulnerability Budget

Mar 2019

David Laing

SRECon AMER - Using Error Budget model to balance security patching with feature development - applying structured decision-making to operational priorities

## Technologies

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**Site Reliability Engineering:** Kubernetes, Terraform, Incident Management, SLI/SLO Design, Error Budgets, On-call Operations

**Observability & Monitoring:** Prometheus, Grafana, Datadog, ELK Stack, Log Aggregation, Alerting Strategies

**Cloud Infrastructure:** AWS, GCP, Infrastructure as Code, Helm, Cloud Foundry, Container Orchestration

**Systems Programming:** Golang, Python, Bash, SQL, System Architecture

**Data Reliability:** BigQuery, Data Pipeline Architecture, Data Quality Monitoring, 100PB Scale Operations

**Leadership & Operations:** Team Building, Global Team Management, Incident Response, Post-mortem Culture, 24/7 Operations