

MARK CHRISTIAN KLAAS

Software Engineer | DevOps | AI/ML Infrastructure

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Based in Singapore. Hybrid or remote preferred.

DevOps and platform engineer, 8+ years, mostly on Linux, AWS, and Kubernetes. Most of the work is making operations run without a human, whether that's patching, provisioning, deployments, or monitoring. Recent projects use LLMs for content pipelines that run unattended.

WORK EXPERIENCE

Software Engineer

WizVision Pte Ltd | Nov 2021 - Present

EKS PLATFORM HARDENING

- Rebuilt worker-node images as CIS Level 1 hardened AL2023 AMIs across two UAT clusters, bringing them up to the RHEL fleet's baseline.
- Each security agent, whether endpoint protection, vulnerability scanning, or log forwarding, went host-baked or DaemonSet depending on whether it needed host OS visibility; agents ship inside the AMI but activate at first boot, registering through Secrets Manager and IRSA.
- The build environment had no direct repository access, so packages came in through an offline RPM pipeline using repotrack, archives, and a jumpshost.

RHEL & AWS OPERATIONS

- RHEL9 upgrades and vulnerability patching across 11 production and UAT systems, clearing VMS scan findings.
- Debugged and fixed AWS issues like EC2 connectivity failures and broken CloudWatch log forwarding.
- Automated 50+ batch processes with JobScheduler, cutting manual intervention by 40%.
- JMeter load testing found the bottlenecks; fixing them improved application response times by 20%.
- Wrote the team's first formal documentation for RHEL9 patching, upgrades, and repository configuration.

DevOps Engineer

Z Turing | Aug 2021 - Oct 2021

- Node provisioning for Bitcoin, Filecoin, Ethereum, and TRON was manual; containerizing it with Docker cut setup time by 50%.
- Monitoring and alerting went to Telegram, Discord, and WhatsApp, and mean time to resolution dropped 25%.
- Sized infrastructure for high-compute workloads.

DevOps Engineer

ST Engineering: Mission Software & Services | Jan 2021 - Aug 2021

- Moved deployments onto Docker Compose to curb configuration drift.
- Introduced Kubernetes for orchestration and horizontal scaling.
- Integrated Prometheus, Grafana, Loki, Vector, KrakenD, and Keycloak for observability and auth.

Software Engineer

ST Engineering Electronics | Apr 2019 - Dec 2020

- Stood up real-time monitoring on Prometheus, Grafana, and VictoriaMetrics as a working demo.
- Containerized the monitoring stack (Docker, Kubernetes, Istio, KrakenD, Keycloak) so it could move between client environments.

Identity Specialist

Azimuth Labs | Apr 2018 - Jan 2019

- Ran CA Identity Management and Governance for a major client and independently handled 20-30 tickets a day.
- API and back-end services for authentication and authorization, on OAuth2 and OIDC.
- Automated user provisioning and identity lifecycle management.

PROJECTS

Homelab Infrastructure

Personal Project

- A two-node Kubernetes cluster on Proxmox VMs, managed entirely through GitOps. Flux reconciles 17 namespaces from a self-hosted GitLab and image automation rolls out new container builds.
- Terraform on the bpg/proxmox provider defines 13 of the 14 VMs and LXC's, and Ansible handles monitoring agents and watchdogs.
- Secrets are SOPS + age encrypted at rest, decrypted in-cluster by sops-secrets-operator.
- GitLab backups run through a four-tier chain, ending age-encrypted in Cloudflare R2. CloudNativePG PostgreSQL clusters take continuous barman backups to R2 as well.
- No inbound ports are open. External access goes through Cloudflare Tunnels with Authentik SSO in front.

Absurd Vault

Personal Project

- A fully automated content pipeline that ran three times a day. It found stories on Reddit, wrote scripts with Claude, synthesized voice-over with Fish Speech, captioned with Whisper, assembled video with ffmpeg, and uploaded to YouTube and TikTok.
- A second loop pulled YouTube Analytics and analyzed trends with Claude, with a local Gemma model handling the daily pulses. It rewrote underperforming titles, removed dead content, and produced weekly strategy reports.

pvewatch

Open Source - GitHub

- An open-source Proxmox backup and VM monitor. It ships through its own GitLab CI pipeline with lint, tests, and SonarQube quality gates.

The Kopi Log

Personal Project

- An unattended tech-news pipeline that ingests RSS feeds, clusters related stories with TF-IDF, has an LLM write the analysis articles, and publishes them as a static Astro site three times a week from a Kubernetes CronJob. 121 articles published unattended since June 18, and still running.
- It operates at zero marginal API cost and uses free images from Pexels. Runs are idempotent, and a half-hourly probe checks that the site hasn't gone stale.

SKILLS

Cloud & Infrastructure: AWS (EC2, EKS, CloudWatch, IAM) · Terraform, AMI Pipelines · Kubernetes, Docker, LXC · GitLab CI, Flux, GitOps, Helm · Ansible, SOPS · Proxmox VE, Linux, NFS · Prometheus, Grafana, Loki

AI & Automation: LLM APIs (Claude, Gemini) · OpenAI Whisper · Event-driven Workflow Automation

Security & Languages: IAM, SSO (Authentik) · Cloudflare Tunnels · RHEL Hardening, CIS Benchmarks · Python, Bash, PowerShell · Git, REST APIs, OAuth2

EDUCATION & CERTIFICATIONS

BSc in Computer Science (Digital Systems Security)	University of Wollongong - SIM	2015 - 2018
Diploma in Interactive Media Informatics	Temasek Polytechnic	2009 - 2012
Higher NITEC in Information Technology (Networking)	Institute of Technical Education	2007 - 2009
Government Commercial Cloud - Foundation	Government Technology Agency	Apr 2022
Software Design Guidelines for Safety-Critical Systems	Critical Systems Labs	Oct 2019

LANGUAGES & INTERESTS

Languages: English (Native) Interests: Cooking · Reading · Learning · Home Improvement