

# KAI WEI MO

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## EDUCATION

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**University of Waterloo** — Bachelor of Computer Science

Sep 2020 – Apr 2025

- 3.94 GPA, Term Distinction (x5), President's Scholarship of Distinction

## EXPERIENCE

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**Akuna Capital** — Incoming Software Engineer

May 2024 – Aug 2024

- Incoming SWE Intern at Akuna Capital, Chicago headquarters.

**Nuro** — Cloud Reliability Engineer

May 2023 – Aug 2023

- Streamlined on-prem **Kubernetes** cluster orchestration introducing **Rancher** to automate cluster version upgrades, add reproducible cluster configs, and reduce provisioning/maintenance times by **47%** using **Kubernetes**, **Helm**, **Terraform**, and **GCP GKE**.
- Created virtualized **k8s-in-k8s** on-prem clusters with **vCluster** integrated with **ArgoCD** on **GKE** to overhaul company-wide cluster management, achieving multitenant isolated work environments supporting shared CRDs and centralized networking while reducing management overhead by **19%** working hours.
- Created **GCP Cloud Run** service to ingest **GCP Recommender** analytics and suggest changes to **Terraform** code using **Python**, **Bash**, and **GitHub Actions**, improving performance, cost-savings, and reliability of **GCP** infra by **8%**.
- Introduced **Kyverno** into clusters to enforce secure admission policies, enhancing configuration and compliance by an expected **40%**.

**Apple** — Build and Tools DevOps Engineer

Jan 2023 – Apr 2023

- Developed a workflow automator using **Python**, **Flask**, and **Kubernetes** featuring plug-and-play extensibility for any applications' webhook events based on users' custom config files, introducing alerting for **15** repos, **2** Jira boards, **6** Slack channels, and email.
- Crafted a custom config file specification with syntax and semantic **parsers**, condition **validators**, and templating patterns, enabling users to easily specify precise workflows using **Python** and **Jinja**. Created a documentation web app using **React** and **JavaScript**.
- Designed event-driven architecture using the **subject-observer pattern** and implemented handling of hundreds of events using threading and async programming for scalable, efficient event processing. Ensured data persistence with **SQL** and **MySQL** database.

**SAP** — Cloud Orchestration and Infrastructure Developer

Sep 2022 – Dec 2022

- Introduced blue-green deployments using **Helm** and **Kubernetes Python Client** for isolated deployment of **Kubernetes** modules.
- Enhanced testing pipelines to support chart iteration within one team-wide, long-lived landscape by developing support for blue-green deployments to optimize testing pipeline efficiency by **40 minutes** per pipeline and reduce resource consumption by **24%**.
- Utilized **Kubernetes Python Client** and **Python** scripting to revamp datalake operators to monitoring for blue-green labels, improving resource management and achieving module isolation for seamless integration with overall architecture.
- Created **Grafana** dashboard using **Prometheus**, **PromQL**, and **Loki** to estimate migration time for customer **SAP HANA Cloud** platforms to a cloud-native environment with **0.97%** margin of error.

**The Globe and Mail** — Site Reliability Engineer

Jan 2022 – Apr 2022

- Reduced node underutilization for **20+** nodes by redesigning **EKS** cluster modules, introducing **Karpenter** to provision optimal node types and **Gatekeeper** to achieve intelligent node-pooling using **Kubernetes**, **Helm**, and **Terraform**.
- Enhanced security team's **AWS** audit process to have **96%** centralized visibility of all **IAM** resources by defining resource configs in version control and developing a **Buildkite** pipeline to manage **IAM** resources using **Terraform**.
- Introduced **ArgoCD** as a **GitOps** CD tool for **Kubernetes** to increase ease of deployments by **20%** by introducing multitenant and multicluster deployments, improved rollbacks and disaster recovery, and role-based access control.
- Developed a transformation pipeline for **2+ million** daily news events using **Terraform**, **Kinesis**, **Lambda**, **Flink**, and **DynamoDB**.

**Mappedin** — DevOps Engineer

May 2021 – Aug 2021

- Streamlined secure access to **Jenkins** for QA team by introducing **HAProxy** reverse proxy for SSL connection and company-wide **Google SSO** integrated with **Jenkins** role-based access control and audit trailing.
- Reduced disaster recovery time of **Jenkins** by **15+ minutes** by automating data backup and recovery using remote storage and **Bash**.

## SKILLS

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- **Languages:** Python, Bash, C/C++, JavaScript, Java, SQL
- **Technologies:** AWS, GCP, Docker, Kubernetes, Helm, ArgoCD, Terraform, Jenkins, Flask, Git