

# Guochao XIE

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## WORKING EXPERIENCES

Oracle, Member of Technical Staff. (GraalOS Project – High-performance serverless application deployment platform)

Zürich, Switzerland 07/2024 – Now

- Contributed to the development of customer-facing multi-tenant observability capabilities, including **Java**-based logging and monitoring agents used in production.
- Built an agent-friendly diagnostics framework leveraging **Codex** and structured logging (**MDC**) to automatically trace, correlate, and analyze individual work requests and resource-level failures.
- Developed key components of a service health monitoring pipeline using **Terraform**, **OpenTelemetry** and **Grafana**, under the guidance of a staff engineer, improving failure detection and diagnosis.
- Improved the reliability of **container-based** integration tests by eliminating flakiness caused by JAR dependency resolution, and enforced the solution through the merge gate.
- Reduced container image pull latency by >90% (4 minutes → 20 seconds) by introducing a shared, reusable base image strategy.
- Worked on cross-cutting platform features including NGINX-based L7 load balancing using **OpenResty**, service-to-service authorization, and participation in production on-call rotations.

Oracle, Master Thesis. (eBPF-Based SBOM Generation)

Zürich, Switzerland 09/2023 – 03/2024

- Developed a framework of monitoring, **container** management and post-processing using **Python** and **Bash**. Monitored Linux container kernel and user-space events using **eBPF** and **Python BCC**. Built file-level provenance and generate **Software Bill of Materials** for complex build systems mixing multiple frameworks including Java's **Maven** and **Gradle** and Rust's **Cargo**.

Oracle, Research Assistant. (Infrastructure as Code: Modularization and visualization)

Zürich, Switzerland 07/2022 – 12/2022

- Designed a consistent **Terraform** composition solution using naming convention. Implemented **Terraform** code parsing and generation using **Go**. Develop a **Terraform module** "flattening" tool to improve readability and customization using **Go**.
- Designed a solution to trace resource dependencies. Implemented a **Terraform-core** patch in **Go**. The result outperformed **all plan-phase analysis** tools. Visualized the improved dependency inferring with a **VSCode Extension** using **SVG.js**.

## EDUCATION EXPERIENCES

École Polytechnique Fédérale de Lausanne, Master of Computer Science (Software Systems). GPA: 5.54/6.0. 09/2021 – 03/2024

- Related Courses: Database Systems, Data Visualization (**d3.js**), NLP (**GPT & LLM**), Systems for Data Science (**Spark**).

The Chinese University of Hong Kong, Shenzhen, BEng of Computer Science and Engineering.

09/2017 – 07/2021

- Presidential Award for Outstanding Students. Rank: top 1%. GPA: 3.827/4.0.
- Courses: Programming (**Python**, **C++**, **JAVA**), Database (**MySQL**), Cloud Computing (**AWS**), Blockchain Systems (**Go**).

University of California, Berkeley, Summer Program. GPA: 4.0/4.0. Operating System (**C**, **Go**), Game Theory.

06/2019 – 08/2019

## CERTIFICATIONS

Cloud: [Azure Administrator Associate \(AZ-104\)](#) & [Azure Solutions Architect Expert \(AZ-305\)](#) & [OCI Architect Associate \(1Z0-1072\)](#).

Kubernetes: [Certified Kubernetes Administrator \(CKA\)](#), [Certified Kubernetes Security Specialist \(CKS\)](#).

## SKILLS

- Languages: Java, Go, Lua.
- Infrastructure: Terraform, Containers, CI/CD.
- Observability: OpenTelemetry, Grafana.