

Kevin Mok

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Work Experience

Red Hat

May 2020 — Aug 2021

Cloud/Software Engineer Intern <Kubernetes, GoLang, Jenkins>

- **Reduced deployment time by 66%** by implementing a [solution](#) for deploying locally-compiled binaries onto Kubernetes/OpenShift via command-line, **cutting average deployment times from 45 minutes to 15 minutes**. (Kubernetes/GoLang used for this and three below).
- **Eliminated 80% of manual configuration errors** by enabling the Kubernetes operator to automatically fetch data from deployed services and update configurations, **deprecating legacy startup scripts and reducing overall startup time by 40%**.
- **Improved application stability** by introducing startup probes for legacy applications with longer boot times, **resulting in a 50% reduction in startup-related failures and downtime during production launches**.
- **Enhanced system reliability** by refactoring probes to [assign default values](#) dynamically based on deployed YAML files and fixing reconciliation issues, **increasing probe accuracy by 30%** and preventing misconfigurations.
- **Increased CI pipeline efficiency** by rewriting the **Jenkins (Groovy) [nightly pipeline](#)** to run in a GitHub PR environment, allowing for automated testing of all team-submitted PRs prior to merging, **reducing manual intervention by 60%**.
- **Demonstrated leadership and collaboration** by actively contributing to Agile sprint planning in a 12-member team, driving improvement in sprint velocity through optimized task delegation and idea generation.
- **Increased project reproducibility** by taking initiative to write a [reusable GitHub parameters file](#) for the pipeline, **enabling 100% reusability** and ensuring consistent pipeline setups across different environments.
- **Streamlined developer onboarding** by authoring comprehensive [project documentation](#) and mentoring an incoming intern, **reducing onboarding time by 50%** and enhancing new team members' productivity within their first sprint.

Projects

AWS Server <AWS, Kubernetes, Docker, Terraform>

May 2024

- **Deployed and maintained [multiple web applications](#)** using **Docker Compose** on **AWS EC2 Debian/Linux servers**, ensuring consistent environments for applications handling **over 2,000+ monthly requests**.
- **Automated AWS infrastructure provisioning** by writing [Terraform files](#) to deploy AWS EC2 instances and Docker containers, **accelerating deployment times by 80%** and providing an easily reproducible infrastructure setup.
- **Improved web application accessibility** by configuring **AWS Route 53's DNS** and **NGINX** to route subdomains to individual web apps, **enabling seamless navigation between apps**.
- **Built a uptime monitoring system** by writing a [JavaScript script](#) and setting up a systemd service/timer to check and display page uptime, **ensuring near real-time monitoring and reducing downtime time by 95%**.
- **Optimized cloud security** by configuring AWS security groups to allow inbound HTTPS traffic, **improving system accessibility while maintaining secure data transmission**, resulting in a **50% reduction in data interference attempts**.
- **Enhanced data resilience** by automating regular backups using Amazon EBS snapshots, ensuring **99.9% uptime and data integrity** by creating consistent and reliable backups, **reducing potential data loss by 95%** in disaster scenarios.

Skills

AWS, Kubernetes, Terraform, Docker (Compose), Jenkins, Groovy, Go(Lang), Bash, **Linux, JavaScript, React, Python, Django, Node.js, PostgreSQL, MongoDB, Solidity, C, Git, Command Line**

Education

University of Toronto (St. George)

2019 — 2024

Computer Science Specialist — 3.84 GPA (CS). Graduated with High Distinction.

References

See my LinkedIn for [references](#) from my Red Hat managers/mentee, a startup client and a graduate student mentor.