

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, GoLang, 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.