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Summary

Site Reliability Engineer
DevSecOps Engineer
Network Security Engineer

Experience

DevOps Engineer

두나무 (Dunamu)
Oct 2023 - Present (4 months)
Confidential

Site Reliability Engineer

Karrot
Jun 2022 - Oct 2023 (1 year 5 months)
I work in the Cluster part of the SRE team. I'm working on securing the stability of the Karrot Market's network and Kubernetes clusters. Among them, I mainly deal with network security.

- HAProxy maintenance
- Bot & Abuser detection by HAProxy
- Making log and metrics delivery pipeline to visualize them in Grafana dashboards
- Istio service mesh maintenance
- Kubernetes & istio network optimization
- FinOps
- Automation

Lead of Network Security Part

PUBG Corporation
Dec 2021 - Jun 2022 (7 months)
Worked on PUBG: NEW STATE

In charge of defend PUBG: NEW STATE infrastructure from the various attacks.

DevSecOps Engineer

PUBG Corporation
Oct 2020 - Dec 2021 (1 year 3 months)
Worked on PUBG: NEW STATE

- eBPF programming (with XDP ingress + TC egress control) to protect infra system from DDoS attack.
- Load test and tune network infrastructure to handle 10,000,000+ concurrent users.
- Kubernetes HPA + Prometheus Adapter to scale in or out the pods using custom metrics.

- Setup development and execution environment of various server-side applications (microservices) using AWS EKS, Kubernetes, Terraform and Helm.
- Setup service mesh (Istio) and logging system (Prometheus and Fluent Bit).
- Monitor cloud platforms.
- Build CI/CD pipeline based on GitOps. Using Jenkins for CI and ArgoCD for CD.
- Support game server developers in terms of infrastructure.
- Operation, analysis, stabilization, and optimization of the established infrastructure.

DevOps Engineer
Angelswing
Nov 2019 - Oct 2020 (1 year)
Designing and engineering network and security infrastructure for software application.

Dockerization and Deployment Management
- Dockerize Ruby on Rails, Node.js, Python applications and deploy them to AWS ECS using Fargate or EC2 type.
- Build deployment strategy to implement Zero downtime for deployment (Blue-green and Rolling update).
- Develop CI/CD pipeline of dockerized applications.
- Build applications states retention strategy using docker-compose + ECS task definition + Docker image. From this, the company can run application up to the specific date or version without the codes for rollback.

Security
- AWS WAF.
- Firewall policy for AWS ELB.
- Application-level security policy.
- CIS Benchmark

Database Visualization
- Configured Logstash to fetch data from PostgresQL to ElasticSearch for visualizing data then give insights to business team.

Log Analysis
- Configure log streams from ECS services to CloudWatch to analyze metrics of applications.
- ELK

Application Performance Monitoring
- Elastic APM

AWS infrastructure architect
- Organize VPC and strictly separate public and private subnets in all availability zones for the safety and HA.
- Configure MSK (Managed Kafka) for internal communication of multiple micro-services.

DevOps Technical Lead
LUXROBO
Dec 2018 - Nov 2019 (1 year)

Infrastructure Management
- Monitor in-house web services using Docker and NetData.
- Build in-house network system fully connected with wireless communication.
- Configure in-house web services using Docker Swarm.

Software Development Management
- Design software architecture.
- Review and approve all software projects, including C++ projects. All code changes are merged into the code base upon my approval.
- Build a code review system using GitLab MR, Jenkins. When the person who writes the code opens the MR(Merge Request), Jenkins merges the source and the target branches first. When the build is successful, the creator gets a code review from the colleagues and I review and approve it as final. JIRA issues are automatically closed when it's merged.

Building CI/CD Pipeline
- Automate a build & deploy process of Linux, macOS, Windows, Android, iOS, and Python applications using Jenkins pipeline. All Jenkins pipelines were written in Groovy, following the declarative pipeline script rule.
- Develop the application download server using AWS Lambda, API Gateway.

Python Command-line Application Development
- Write the python program on which a user can program and run the LUXROBO's product, MODI. The codes include C++ code for performance enhancement, which is built in the form of an extension, and linked at runtime as a dynamic library.

C++ Application Maintenance
- I converted existing C++ projects to CMake projects. This shortened the build time and binary size up to maximum 10x. I used Ninja as the build system and used Conan as the dependency package manager.

SW Dev. Team Manager
LUXROBO
Jul 2017 - Dec 2018 (1 year 6 months)
Software Development Team Management
- Design Electron and C++ applications.
- Operate 3 Kanban projects.

C++ Application Optimization
- Refactor and bug-fix the C++ daemon process program and deployed the LTS release.

Software Engineer
LUXROBO
Apr 2017 - Jul 2017 (4 months)
Building Software Development Environment
- Configure JIRA and Confluence in the in-house server and educate the members on how to utilize them.

C++ Application Development

- Write the 'MODI Studio Daemon' C++ application with C++11 and Boost. It is TCP socket client that processes the commands between MODI serial port and Electron application.
- Update the versions of C++ standard of the project from 98 to 11.

iOS Application Development
- Develop the 'MODI manager' iOS application that controls MODI by BLE with Swift 3.

Education

Yonsei University
Bachelor's degree, Physics
Mar 2013 - Aug 2019

Korea Digital Media High School
Hacking Defense
Mar 2010 - Feb 2013

Skills

Confidential • HAProxy • eBPF • XDP • Amazon Web Services (AWS) • C++ • Site Reliability Engineering • BPF • Agile Methodologies • Agile

Honors & Awards

Korea Robot Aircraft Competition - 한국항공우주산업진흥협회
Aug 2016
I have developed unmanned aircraft flight control, communication software.