YOSAFAT MARSELINO AGUS

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Gerrit | Github | LinkedIn

Software and platform engineer with 5 years of Linux and 3 years of Kubernetes experience, specializing in cloud-native infrastructure automation, microservice development, and CI/CD pipeline design for latency-sensitive 5G RAN environments.

Key Skills

Kubernetes, Docker, Jenkins, ArgoCD, Python, Linux (RHEL/Ubuntu), OpenShift, StarlingX, GitOps, SR-IOV/DPDK, Bare-metal provisioning

Work Experience

Software Engineer / Researcher Feb 2024 – Feb 2026
O-RAN Software Community Asia Pacific Lab, NTUST **Taipei**

- Built a GitOps CI/CD pipeline using Jenkins, ArgoCD, and Quay automating 5G RAN integration testing across on-premise OpenShift, StarlingX, and Kubernetes clusters, replacing previously manual bare-metal test procedures, with open-source contributions to O-RAN SC `pti-o2` and `pti-rtp`
- Applied RT kernel configuration and **SR-IOV** NIC partitioning to enable Kubernetes-hosted testing of latency-bound 5G baseband units, previously bare-metal only
- Authored an automated test framework executing 72 integration scenarios across OpenShift and StarlingX, migrating RAN validation from manual to fully automated
- Designed and implemented three O-RAN-compliant microservices in **Flask**: **NFO** and **FOCOM** for O-Cloud infrastructure management and **rApp** for automated test orchestration, contributed upstream to O-RAN SC `pti-o2`
- Built a per-cluster profiling and fault injection agent in **Flask**, exposing REST APIs for host-level observability across CPU, memory, PTP, SR-IOV/DPDK, and RAPL/Redfish power, with fault injection covering VLAN, link-down, PTP, and stress-ng

Backend Developer / System Integrator April 2021 – Dec 2024
Telecom Infra Project Community Lab **Bandung**

- Operated a community lab enabling RAN vendors, MNOs, and system integrators to conduct OpenRAN and OpenWiFi field POCs across multi-vendor environments
- Built a full-stack lifecycle management platform using **Django** and **Svelte** for automated orchestration of containerized network functions across multi-vendor lab environments
- Designed and maintained RESTful APIs for automated deployment, configuration, and teardown of 5G core network functions on **OpenShift**, supporting RAN VNF integration testing scenarios
- Automated remote access infrastructure using **Python** and **Bash**, enabling 300+ concurrent users to perform hands-on RAN training on live container-based core network deployments
- Operated Linux-based network operating systems (SONiC, DentOS, DANOS, OcNOS) on white-box switching hardware for multi-vendor integration test environments

Research Engineer Nov 2019 – March 2021
Telkom University: IoT Research Center **Bandung**

- Implemented NTRU post-quantum cryptography on ARM Cortex-M3 achieving 3× faster key generation than RSA, published at IEEE ICT 2020

Education

***MSc.* on Electronics and Computer Engineering** Feb 2024 - Feb 2026
National Taiwan University of Science and Technology **Taipei**

***BSc.* on Electrical Engineering** Aug 2015 - Aug 2020
Telkom University **Bandung**

Publications

Comparative Study of Post-Quantum Cryptographic Algorithms for Energy Systems Monitoring Sep 2023
MDPI Electronics 12

- DOI:10.3390/electronics12183824

Efficient Implementation of NTRU in Post-Quantum IoT Oct 2020
IEEE ICT 2020 International Conference

- DOI:10.1109/ICT49546.2020.9239560

On The Possibilities of Cybercrime in IoT Devices Mar 2020
Test Eng. Manag 83

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