

Thanh Loi Hoang

GRADUATE RESEARCH ENGINEER · SOFTWARE ENGINEER

Dongjak-gu, Seoul, Republic of Korea

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“Research. Build. Solve. Improve.”

Summary

Graduate research engineer working on Kubernetes and the GPU layer under AI workloads — Kubernetes since 2024, AI infrastructure since 2025. Currently building a platform for machine learning workloads in a cloud-native AI lab in Seoul. GPU sharing and scheduling are the research thread: how a single device is divided between workloads, and how those workloads are placed across heterogeneous hardware so that scarce GPU capacity is used efficiently rather than left idle. Also, since July, a technical partner on a multi-service web platform: designing the architecture, building and containerizing the components, and preparing the platform for production deployment.

Before Seoul: OpenShift clusters for banking environments, VMware architectures designed with customers, physical-to-virtual or virtual-to-virtual migrations, a small-scale SDN testbed on physical hosts and switches. Comfortable at the layer where abstractions leak, from switch ports to the driver calls a workload makes on a GPU. Learns a system by standing it up and watching it; device-level and process-level GPU metrics are correlated to the Kubernetes workloads behind them.

Work Experience

HyeraEdu

Remote

SOFTWARE ENGINEER & TECHNICAL PARTNER

Jul. 2026 - Present

- Designed the end-to-end technical architecture of a multi-service web platform supporting learning, content, and service-oriented workflows.
- Engineered, developed, and integrated the platform's application components.
- Containerized and deployed the platform, managing the application stack and production environment.

Cloud Native x AI Laboratory

Seoul, South Korea

GRADUATE RESEARCH ENGINEER

Mar. 2025 - Present

Platform Project

- Worked on the design and development of a Kubernetes-based platform for machine learning workloads.
- Built internal tools to make common workflows easier to use and manage.
- Integrated core infrastructure components for deployment, data handling, and workload execution.
- Evaluated different approaches to managing compute-intensive workloads and improving resource efficiency.
- Added monitoring capabilities to improve visibility into platform and workload behavior.

FPT IS

Hanoi, Vietnam

SYSTEM ENGINEER

Jun. 2024 - Feb. 2025

VMware Virtualization Project

- Assessed customers' existing infrastructure and collaborated with stakeholders to design tailored VMware virtualization architectures for each deployment.
- Deployed and configured VMware-based virtualization environments, including servers, storage, and physical-to-virtual or virtual-to-virtual migrations.
- Prepared technical documentation for customers, covering system architecture, configuration, and operational guidelines.

OpenShift Deployment Project

- Performed end-to-end OpenShift cluster deployments for banking environments, from VM preparation and prerequisite configuration to cluster installation and required platform component setup.

Viettel Networks

Hanoi, Vietnam

DEVOPS ENGINEER

Jul. 2023 - Dec. 2023

- Developed a data pipeline to retrieve personal activity and fitness data through authenticated Strava API requests, transform the data, and store it in MySQL.
- Built a web-based interface to query and visualize stored activity data for monitoring and analysis.
- Containerized the application stack with Docker Compose for portable and reproducible deployment.

- Implemented a small-scale software-defined networking (SDN) testbed using physical hosts and network switches.
- Deployed and integrated OpenDaylight and Tungsten Fabric with OpenStack, and evaluated system and inter-VM network performance.

Publications

Synchronous Distributed Training with Runtime-Adaptive Mechanisms
in Hybrid Cloud Environments

IEEE Access

T. A. Vuong, **T. L. Hoang**, H. Le, Y. H. Kim

2026

A Design for Continuous Low-Overhead CUDA-API Observability
in Kubernetes GPU-Sharing Systems

KICS Summer Conference

T. L. Hoang, Y. H. Kim

2026

A Design of Cloud-based Personal Machine Learning Workspace

KICS Summer Conference

T. L. Hoang, T. N. D. Thong, Y. H. Kim

2025

A Comparison of Two SDN Controllers Integration in OpenStack
Environment

International Conference on
Intelligent Systems and Networks**T. L. Hoang**, D. Q. Pham, T. T. M. Dinh

2025

Performance Evaluation of OpenStack Cloud Integrated
with SDN Controller

REV Journal on Electronics &
CommunicationsM. T. T. Dinh, **T. L. Hoang**, Q. D. Pham, D. N. Nguyen

2024

Evaluation of Network Performance between Virtual Machines on Cloud Computing
integrating SDN Controllers on Virtual Environments (in Vietnamese)

REV-ECIT

T. L. Hoang, Q. D. Le, T. P. D. Chu, T. T. M. Dinh

2023

Honors & Awards

ACADEMIC AWARDS

2022 **Academic Incentive Scholarship**, Vietnam National University

Hanoi, Vietnam

2023 **Academic Incentive Scholarship**, Vietnam National University

Hanoi, Vietnam

2024 **Excellence in Graduation Thesis Defense**, Vietnam National University

Hanoi, Vietnam

2025 **Fully Funded Scholarship for Integrated M.S.-Ph.D. Program**, Soongsil University

Seoul, South Korea

Education

Soongsil University

Seoul, South Korea

INTEGRATED M.S.-PH.D. IN INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS

Mar. 2025 - Present

- GPA: 4.34/4.5

Vietnam National University

Hanoi, Vietnam

B.S. IN COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS

Sep. 2020 - Jun. 2024