



Hoang Manh Khiem

Software Engineer

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CAREER OBJECTIVE

Software Engineer with a system-oriented mindset, experienced in backend development, cross-team collaboration, and AI/ML integration.

Actively involved in **system documentation, QA/QC coordination, and frontend support**, ensuring end-to-end solution quality. **Long-term goal is to grow into a Solution Architect**, designing secure, scalable architectures that align technical systems with business needs.

EDUCATION

University of Transport and Communications
BSc in Information Technology

Hanoi, Vietnam

Sep 2022 – Jun 2026 (expected)

GPA: 3.67/4.0 | 9 merit scholarships | Focus: Focus: Artificial Intelligence, Network & Information Systems.

BKACAD Academy of Technology - Hanoi University of Science and Technology
Certificate Program: Networking Administrator

Hanoi, Vietnam

November 2024 – Apr 2025

Completed program with 100% final grade. Focused on enterprise network architecture, TCP/IP protocols, LAN/WAN setup, network security, system administration, router/switch/firewall configuration.

PROFESSIONAL EXPERIENCE

MedNeuro Health Technology and Services Joint Stock Company
Software Engineer

Hanoi, Vietnam

Sep 2025 – now

Key Responsibilities & Achievements

- Led backend development for **CMS & CRM systems**, owning system architecture, core services, and data models.
- Led backend design and implementation for a **mobile healthcare platform**, supporting patient care workflows and AI-powered features.
- Designed and maintained scalable, secure backend services to support web and mobile applications in a healthcare environment.
- Integrated AI/ML components into backend pipelines, enabling intelligent features such as analytics, automation, and decision support.
- Developed and maintained system documentation, technical specifications, and architecture diagrams for **development, QA, and QC teams**.
- Reviewed code, guided implementation, and supported cross-team collaboration to ensure system quality and consistency.
- Built and operated containerized deployments and CI/CD pipelines on Linux-based infrastructure.

AWARDS / ACHIEVEMENTS

Promotion of scientific research for students Nationwide	2024
Excellent Prize, Scientific Research, University of Transport and Communications	2023-2024, 2024-2025
First Prize (Special Round), Third Prize (Rounds 1 & 2) - Student Informatics Olympiad, University of Transport and Communications	2024
Second Prize, Creative Idea Prize - Cardano Blockchain Hackathon	2024,2025

PUBLICATIONS

Co-author – “Evaluation of Attention-Centered YOLO Models to Detect Leaf Diseases”

Presented at the Scientific Conference on New Technology and Applications in Electricity – Electronics – Automation
University of Transport and Communications (UTC), May 2025

PROJECTS

Early Action Recognition <i>Computer Vision / Human Action Recognition / Healthcare AI</i>	<i>Hanoi, Vietnam</i> Nov 2023 – Jun 2024
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- Designed training/inference pipelines with GCN, ST-GCN, AAGCN for skeleton-based action recognition.
- Applied knowledge distillation to reduce training cost by ~75% while maintaining accuracy.
- Optimized GPU resource utilization and built scalable evaluation workflows.

Fruit Disease Detection Using Deep Learning

<i>Computer Vision / Healthcare AI</i>	<i>Hanoi, Vietnam</i> Oct 2024 – Jun 2025
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- Architected and implemented an end-to-end object detection system for disease identification using YOLOv8 with a lightweight backbone and FPN.
- Integrated model inference into production via APIs and containerized deployment for real-time monitoring.
- Optimized speed-accuracy trade-offs through transfer learning, data augmentation, and systematic benchmarking.

Other Projects (Summarized)

Apr 2022 - May 2024

Self-care App Using Data Science: Stress assessment mobile app using NLP + ML pipelines.

Student Management WebApp: Online management platform; implemented RLS security, authentication, and scalable database architecture.

Virtual Network Carrier System: Simulate and manage virtual network carriers.

Distributed Traffic Load System: Built load balancing architecture for high-availability traffic management.

SKILLS & TOOLS

System & Solution Design: End-to-end system design, distributed systems, event-driven architecture, caching strategies, microservices, REST/GraphQL APIs, CI/CD pipelines

AI & Machine Learning: Applied AI/ML with multimodal data (image, time-series, text), Computer Vision, NLP/LLM (RAG), PyTorch, TensorFlow, scikit-learn, OpenCV, OpenAI API

Data Engineering: Data pipelines, data normalization, batch & streaming analytics, data lineage and reproducibility for data-intensive systems

Cloud & DevOps: Docker, Linux, VPS/Vercel deployment, GitHub Actions, CI/CD automation, monitoring & logging

Backend & Integration: Python (Django/Fast API), NodeJS, Java, C#, secure backend services, system integration across web, mobile, and AI components

Databases & Storage: PostgreSQL (RLS), MySQL, MongoDB, Neo4J, Oracle; data modeling for scalable and regulated environments

Documentation & Collaboration: System documentation, architecture diagrams, technical specifications; collaboration with FE, QA/QC, and product teams

Tools & Environments: Anaconda, VS Code, PyCharm, Git, GNOME Terminal, Terminus.

Languages: Vietnamese (native), English (professional working proficiency)

Professional Traits: Systems thinking, technical ownership, leadership, decision-making, problem solving, adaptability, analytical mindset.