Hoang Manh Khiem

AI Engineer

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CAREER OBJECTIVE

Detail-oriented AI Engineer specializing in Computer Vision and NLP, with strong critical thinking and problem-solving skills. Eager to contribute to meaningful AI projects and grow into a well-rounded AI engineer capable of tackling complex real-world challenges.

EDUCATION

University of Transport and Communications   *Hanoi, Vietnam*
BSc in Information Technology   *Sep 2022 – Aug 2026 (expected)*

GPA: 3.67/4.0 | 7 merit scholarships | Focus: Artificial Intelligence, Network and Information System, Software Engineering

BKACAD Academy of Technology - Hanoi University of Science and Technology   *Hanoi, Vietnam*
Major: Networking Administrator   *November 2024 – Apr 2025*

Completed program with 100% final grade. Focused on network architecture, TCP/IP protocols, LAN/WAN setup, network security, system administration, and hands-on configuration of routers, switches, and firewalls.

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 - Cardano Blockchain Hackathon 2024	*2024*
• Creative Idea Award- Cardano Blockchain Hackathon 2025	*2025*
• Second Prize (God of War Final Round & Online Round) - Algorithm Design Competition, University of Transport and Communications	*2023*
• Third Prize - Open-Source Software & Maps Hackfest Vietnam	*2023*

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
Domain: Computer Vision / Human Action Recognition

Hanoi, Vietnam
Nov 2023 – Jun 2024

Objective: Research and develop an early action recognition model using GCN/ST-GCN/AAGCN with Knowledge Distillation, enabling recognition from incomplete skeleton data.

Key Responsibilities:
• Researched and implemented CNN, GCN, ST-GCN, and AAGCN (with VA & RICH modules) for early action recognition on incomplete skeleton data.
• Applied Knowledge Distillation (Teacher-Student) to reduce training time by ~75% while maintaining competitive accuracy (29.99% vs. 87.88%).
• Developed custom loss functions and used down sampling to optimize training and evaluation on benchmark datasets.

Learned Lesson:
• Gained expertise in GCN-based deep learning and Knowledge Distillation for action recognition.
• Acquired hands-on experience in designing and deploying AI models on time-series data with partial observations, while strengthening teamwork and research skills.

COUNSEPSY: AI Mental Health Assistant
Domain: Healthcare, Mental Health, Natural Language Processing, Data Science

Hanoi, Vietnam
Jan 2024 – Apr 2025

Objective: Developed an AI assistant for depression assessment using **NLP, CNN, RAG, and clustering** to analyze patient text responses.

Key Responsibilities:
• Applied NLP (tokenization, NER, sentiment analysis) to analyze patient responses from mental health assessments.
• Built CNN models for text classification to detect depression severity.
• Implemented RAG for knowledge-aware diagnosis and K-means clustering for symptom pattern discovery.
• Used regression models to predict depression levels from extracted features..

Learned Lesson:
• Applied NLP, feature engineering, and statistical modeling for domain-specific mental health text analysis.
• Collaborated with healthcare professionals to ensure AI outputs aligned with clinical needs.

Other Projects (Summarized)
Role: Backend Developer / FullStack Developer / Network and System Architect

Hanoi, Vietnam
Apr 2022 - May 2024

Self-care App Using Data Science: *Developed a mobile app for stress assessment and self-care using NLP and machine learning.*
Chatbot Admissions Consulting: Built an NLP chatbot with LSTM, PhoBERT, and LLMs for scalable enrollment support.
Fruit Disease Detection Using Deep Learning: Built a YOLOv8-based system with EfficientNet and FPN for real-time fruit disease detection on custom data.
School Computer Management System: Manage computers, upgrades, and monitor student application usage.
Student Management WebApp: Online student information management platform (web, app).
Virtual Network Carrier System: Simulate and manage virtual network carriers.
Distributed Traffic Load System: Distributed network traffic load balancing.

SKILLS & TOOLS

Data Science & Machine Learning: Pytorch, NumPy, pandas, SciPy, scikit-learn, TensorFlow, Keras, OpenCV, OpenAI
Backend development: Python, Django, Java, NodeJS, C#.
Databases: SQLServer, MySQL, MongoDB, Oracle, Neo4J, Postgresql.
Tools & Environments: Anaconda, Docker, Linux, VS Code, PyCharm, Android Studio, Git, GitHub, GitLab, GNOME Terminal, Termius
Languages: Vietnamese (native), English (professional working proficiency)
Traits: Ownership, systems thinking, leadership, decision making, mentoring, presentation, technical writing, problem solving, adaptability, analytical and critical thinking.

CERTIFICATES

Switching, Routing, and Wireless Essentials

CCNA Certification Course, Cisco, Mar 2024

Enterprise Networking, Security, and Automation

CCNA Certification Course, Cisco, Mar 2024

Algorithm and Application Program

Samsung R&D Vietnam & University of Transport and Communications, Aug – Dec 2024