

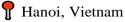
# **Hoang Manh Khiem**

# 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

November 2024 – Apr 2025

Major: Networking Administrator

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**

Hanoi, Vietnam

Domain: Computer Vision / Human Action Recognition

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**

Hanoi, Vietnam

Domain: Healthcare, Mental Health, Natural Language Processing, Data Science

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)**

Hanoi, Vietnam

Role: Backend Developer / FullStack Developer / Network and System Architect

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