



# DUC-TUYEN LE

## AI RESEARCHER

Computer Science student with hands-on experience in Deep Learning and Computer Vision projects. Passionate about using AI to enhance everyday life and eager to advance in this field through further studies.

## CONTACT INFORMATION

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## EDUCATION

Hung Yen University of Technology and Education  
Major: Data Science  
GPA: 3.82/4

## SKILLS

- Proficient in Python programming
- Experience using PyTorch for AI model development
- Knowledge in Computer Vision models (CNN, Object Detection, Segmentation)
- Able to conduct research and present findings clearly
- Familiar with relational databases: MySQL and SQL Server

## CERTIFICATIONS

- Machine Learning Foundations: A Case Study Approach University of Washington, Coursera (Nov 2023)
- Conversational English Skills – Tsinghua University, Coursera (Jan 2024)
- School-Level Scientist Research Competition (2025) - Hung Yen University of Technology and Education (UTEHY) - March 2025
- Top 5 English Olympic Competition held by Faculty of Foreign Languages - Hung Yen University of Technology and Education (UTEHY) - March 2025.

## PROJECTS

### Developing a Tennis Analysis System with Deep Learning

- Processed video data and JSON files to extract key information (coordinates, player positions, jersey colors, numbers, and ball objects) using OpenCV for player and jersey number detection.
- Trained YOLOv5 models for object detection to identify players and the ball on the court.
- Implemented ResNet50 for classification tasks to categorize player jersey colors and numbers.
- Developed algorithms to calculate player movement speed and court coordinates.
- Packaged the code using Docker for deployment and scalability.

### Vehicle Detection and Tracking System with YOLOv8

- Developed a system using YOLOv8 and OpenCV to detect and track vehicles (cars, trucks, buses, motorbikes) in video feeds.
- Implemented a mask to focus detection on a specific region of interest and overlaid graphics for enhanced visualization.
- Designed a tracking mechanism with unique IDs to monitor object movement across frames using Euclidean distance.
- Created a counting algorithm to detect and tally vehicles crossing a predefined line.
- Processed video frames, filtered objects by class and confidence, and displayed real-time results.

### Clothing E-Commerce Website

- Designed and coded a modern, responsive frontend interface using Sakai and React for a clothing store website.
- Built a custom backend API and set up a database (MySQL/SQL Server) to manage product data.
- Implemented product search and filter functionality by category, price, and style, along with an admin dashboard for product management.

## ACTIVITIES

- Vision & Learning Lab Member and Segmentation Team Leader: Led a team in segmentation tasks, contributing to Computer Vision research projects (2023-2024).
- Awarded "Excellent Student" Title: Recognized for academic excellence during the 2023-2024 academic year.
- "5 Good Students" Honoree: Acknowledged for outstanding academic and extracurricular performance (2023-2024).
- Blood Donation Volunteer: Participated in blood donation drives, demonstrating social responsibility (2024, August 2025).
- Fit's Got Talent 2024 Participant: Earned the Promising Award, highlighting creativity and performance skills.