

Duc Tai Dinh

AI Engineer Intern, HCMC | ductai.dt05@gmail.com | github.com/ductai05 | [linkedin.com/in/ductai05](https://www.linkedin.com/in/ductai05)

Third-year AI student at HCMUS (CGPA 8.78), experienced in OCR, LLM & multimodal embedding-based retrieval systems. First author of ZSE-Cap. Seeking an AI Engineer position to apply my research-driven into practical VLM/LLM solutions.

EDUCATION

University of Science, VNU-HCM

Bachelor of Science, Artificial Intelligence

Thu Duc, HCMC

Aug 2023 — May 2027

- Cumulative GPA: 8.78/10.0 (3/8 semesters) | Vu A Dinh Scholarship | Local Scholarship
- Relevant Coursework: Calculus, Linear Algebra, Discrete Math, Combinatorial Math, Statistics, Math for AI, Programming for AI, Data Structures and Algorithms, Computer Networking, Object-Oriented Programming, Databases

Bao Loc High School for Gifted

High School Diploma, Mathematics Specialization

Bao Loc, Lam Dong

Aug 2020 — Jun 2023

- Cumulative GPA: 9.0/10.0 (3 years) | Six-Semester Incentive Scholarship
- Award: First Prize in Mathematics - Provincial-level Excellent Students Contest Grade 12

PROJECTS

Researcher & Developer, Mathematics for AI (github.com/ductai05/Y2S2-Math4AI)

Mar 2025 — Jul 2025

- [Jupyter Notebook] Researched and implemented machine learning algorithms grounded in mathematical principles, including Regression, K-Means, PCA, Mean Shift, MLE, MAP, and Naive Bayes. Explained a foundational VLMs: CLIP.

Back-end Developer, Control Computer via Gmail (github.com/ductai05/socket)

Nov 2024 — Dec 2024

- [C++] Controlling a cluster of server computers in a LAN from a client machine, utilizing cURL and Winsock, with communication between the client and the server network facilitated through Gmail using IMAP, SMTP, and Sockets.

UX/UI Designer, Front-end Developer, Maze Game (github.com/ductai05/Y1S2-MazeGame)

Apr 2024 — May 2024

- [Python] Maze Pathfinding Game, Implemented Using BFS for Maze Generation and A*, BFS, and DFS for Pathfinding.

EXTRACURRICULAR ACTIVITIES & PUBLICATIONS

AI Challenge Ho Chi Minh City (5th 2024 & upcoming 6th 2025)

Jul 2024 — now

- Theme “Event retrieval from visual data”; Team WATLERE reached Top 30/74+ Final Round in 5th (2024).
- Role: Tech Lead – research algorithms and strategy; select & fine-tune AI models (VLMs, LLMs); design and build data pipelines for preprocessing, transformation, and feature engineering; develop backend APIs and microservices.

Top 4 – EVENTA Challenge @ ACM MM 2025

May 2025 — Jul 2025

- Lead R&D for zero-shot image retrieval-captioning system (Top 4 private, Top 2 public).

ZSE-Cap: A Zero-Shot Ensemble for Image Retrieval and Prompt-Guided Captioning.

May 2025 — Jul 2025

- First author of ZSE-Cap (preprint): arxiv.org/abs/2507.20564 | github.com/ductai05/ZSE-Cap

ACHIEVEMENTS & CERTIFICATIONS

ML Specialization; Mathematics for ML Specialization, Stanford University & DeepLearning.AI

Mar 2024

VSTEP level 4, English B2 CEFR, Ho Chi Minh University of Social Sciences and Humanities (USSH)

Sep 2023

First Prize in Mathematics

Mar 2023

- Provincial-level Excellent Students Contest Grade 12, Lam Dong 2023

V-ACT 2023 (VNUHCM Academic Competency Test)

Mar 2023

- Score: 1012/1200, top 0.244%. Issued by Vietnam National University Ho Chi Minh City

SKILLS

- **Programming Languages:** Python, C/C++, R, Matlab, SQL.
- **Technologies:** Git, Github, FastAPI, Milvus, ElasticSearch, Anaconda, CMake, Typst, LaTeX, NixOS, Streamlit, Ngrok.
- **Research Interests:** LLMs, VLMs, OCR, ASR, Object detection, CNN, ViT, Transformers, DINO, FAISS.
- **AI Libraries:** Numpy, Pandas, TensorFlow, PyTorch, Keras, scikit-learn.