DINH-TRUONG, NGUYEN

AI Researcher

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SUMMARY

Dedicated to advancing the fundamentals of machine learning and deep learning. My work bridges theoretical insights with impactful applications in human alignment and machine reasoning, focusing on optimal transport, optimization, and foundation models.

SKILLS

Technical: Statistics, Optimization & algorithms, Machine Learning, Deep Learning, LLM.

Tech-stack: Python, Java, SQL, Pytorch, FastAPI, AWS Sagemaker, Docker.

Misc: Logical & Critical thinking, Leadership, Teamwork, Problem-solving.

Languages: Vietnamese (Native), English (Advanced).

EDUCATION

2023 *to* Now — **Hanoi University of Science and Technology** — **3.91/4.00**
Bachelor of Science in Data Science and Artificial Intelligence

2020 *to* 2023 — **Hanoi National University of Education, High School for Gifted Students** — **9.6/10**
Math Honors Class

RELEVANT EXPERIENCE

2025.4 *to* 2025.8 — **Internship - Viettel Digital Talent** — **Viettel**

- Selected into Viettel Digital Talent (10% acceptance).
- Prototyped reasoning-focused LLM for networking application, improved accuracy by 4% on internal test dataset.

2025.4 — **Student Scientific Research Competition** — **HUST**

- Built a machine-generated text detection system (multilingual, multi-domain).
- Achieve 2nd prize in the competition (top 2%).

2024.9 — **SOICT Hackathon AI Application track** — **HUST**

- Developed an automatic data visualization platform using Python and RAG, improving data analysis speed by approximately 30% across CSV, JSON, and Excel formats.
- Achieve 6th prize in the competition (top 5%).

2024.6 *to* Now — **Research Assistant** — **The International Research Center for AI – Foundation Models Lab**

- My research focuses on human alignment, machine reasoning, and the fundamentals of deep learning under the supervision of Dr. Ngo Van Linh.

PUBLICATIONS

For an updated list, please refer to my Google Scholar profile.

2026 — **BSO: Safety Alignment Is Density Ratio Matching** — **Link**
Under review.

2026 — **Spectral Flattening Is All Muon Needs: How Orthogonalization Controls Learning Rate and Convergence** — **Link**
Under review.

2026 — **Route-and-Generate: KL-Regularized Router Improvement for Reasoning Routing in LLMs** — **Link**
Under review.

2026 — **Principled Token-Level Preference Optimization via Ratio Matching** — **Link**
ICML 2026 (*First Author*).

2025 **CTPD: Cross Tokenizer Preference Distillation** **Link**
AAAI 2026 (*First Author*).

2025 **FAID: Fine-grained AI-generated Text Detection using Multi-task Auxiliary and Multi-level Contrastive Learning** **Link**
EACL 2026 (*Co-author*).

HONORS AND AWARDS

2025 HUST Academic Excellence Award.

2024 HUST Academic Encouragement Scholarship 2024.1 Semester.

2023 HUST Academic Encouragement Scholarship 2023.1 Semester.

2023 Second Prize in Mathematics, HNUE Olympiad 2023.

2022 Third Prize in Mathematics, HNUE Olympiad 2022.

CERTIFICATIONS

2022 7.0 IELTS.

EXTRACURRICULAR EXPERIENCES

2023.9 *to* Now **Member of Study, Scientific Research & Orientation** **HCM Youth Union**

- Led student-driven initiatives to promote research activities, organizing events and mentorship programs to improve academic engagement.
- Assisted students in scientific research, career development, and skill-building activities.

2025.6 *to* Now **Head of Technical Committee** **SoICT Innovation Club**

- Organized seminars and workshops; published slides and relevant documents.
- Mentored new members through a 6-week track; shipped multiple capstones.

REFERENCES

Dr. Ngo Van Linh
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