

Doan Duc Khiem

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EDUCATION

- **Institut Polytechnique de Paris** 2025 - now
Master Data Analysis and Pattern Recognition Paris, France
 - GPA: 16.3/20
- **Hanoi University of Science and Technology** 2021 - 2025
Bachelor Biomedical Engineering (Graduated) Ha Noi, Viet Nam
 - Ranking in class: 5/40
 - GPA: 3.64/4.00 (Excellent) [[Transcript](#)]
 - Relevant Coursework: Introduction to Biology (A+), Medical Image Processing (A), Bioinformatics (A+)
- **Nguyen Hue High School for the Gifted (Major in Physics)** 2018-2021
Prestigious High School Education Ha Noi, Viet Nam
 - GPA: 9.1/10
 - **Scholarships for students with Outstanding Academic Performance** in 2019, 2020, 2021

EXPERIENCE

- **International Research Institute MICA**  2023 – Present
Research Student (Traumatic Brain Injury Classification) Hanoi, Vietnam
 - First author of *1 journal paper*
 - First author of *1 conference paper*
- **BKAI Laboratory (Bioinformatics Research Team)**  March 2025 – September 2025
Research Student (Drug Response Prediction System) Hanoi, Vietnam
 - Working with Bioinformatics team in Drug Response Prediction project.

PROJECTS

- **Multimodal Traumatic Brain Injury Prognosis Assessment** Sep 2024 – May 2025
Python, PyTorch, NLP, Machine Learning, BERT, Multimodality learning 
 - Developed an end-to-end **multimodal deep learning pipeline** to predict traumatic brain injury (TBI) severity by fusing **structured clinical data** with **unstructured physician notes** from 503 patients. The model outperformed uni-modal baselines by 1–2% across four key metrics.
 - Fine-tuned a LLM domain-adapted **BERT model** on **unstructured physician notes**, achieving **71% sensitivity** in TBI severity classification.
 - Using the new adjusted Transformer encoder method to enhance the robustness and awareness with missing data, without imputing methods, meanwhile increasing approximately 10% sensitivity.
- **Drug Response Prediction** Jul 2025 – Oct 2025
Python, PyTorch 
 - Proposed a novel **multi-level information integrating** fragment-level and atom level GNN paradigm that bridges **atom- and fragment-level representations** using a compact chemical vocabulary and **principal subgraph mining**—achieving state-of-the-art performance on standard CCLE dataset for within-dataset drug response prediction.
- **Genomic Variant Analysis and Annotation** Jan 2024 – Apr 2024
GATK, SAMtools, Picard, IGV, R Programming, Python, Linux terminal
 - Analyzed germline and somatic variants using **GATK**.
 - Practiced workflows for variant preprocessing, discovery, refinement, and evaluation.

PATENTS AND PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [J.1] *Duc-Khiem Doan*, Thanh-Hai Tran, Trung-Kien Tran, Thi-Lan Le, Hai Vu, Huu-Khanh Nguyen, Van-Mao Can, Thanh-Bac Nguyen (2024). **viTBI-BERT: A Vietnamese Language Model for Prediction of Traumatic Brain Injury**. *Journal on Information Technologies & Communications*, Vol. 2025, No. 1, pp. [54-67]. DOI: 10.32913/mic-ict-research.v2024.n2.1303.
- [C.1] *Duc-Khiem Doan*, Thai-Khanh Nguyen, Minh Trang Duong, Thanh-Bac Nguyen, Thanh-Hai Tran. **TBI-TTM: Traumatic Brain Injury Prognosis with Textual Data under Missing Tabular Conditions**. *The 24th International Symposium on Communications and Information Technologies (ISCIT 2025)*

HONORS AND AWARDS

- **Best Presentation Award** 2025
Graduation Defense – Electronics and Electrical Engineering Council
 - Recognized for delivering the top-ranked thesis presentation among all candidates in the Electronics and Electrical Engineering department
- **Second Prize** 2025
2025 Health Systems Innovation Hackathon [🌐]
 - Building high-value health systems through Artificial Intelligence at **Hanoi Medical University**, Vietnam Hub
- **Third Prize** 2025
HUST Annual Student Research Conference [🌐]
 - Awarded for research excellence in the track of **AI Applications, Blockchain, and Big Data**

CERTIFICATIONS

- **Machine Learning Specialization** – DeepLearning.AI (Coursera) 2023
- **Deep Learning Specialization** – DeepLearning.AI (Coursera) 2023
- **ISODS Summer Practicum Program: Data Science & AI in Computer Vision** Dec 31, 2023