

Duc-Dong Le

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Research Interests

Large Language Models, Efficient Architecture, Knowledge Editing, NLP Application

Education

Nanyang Technological University (NTU), Singapore

Ph.D. in Computer Science

Jan 2026 – Present

NTU Research Scholarship (Fully Funded)

Ho Chi Minh City University of Technology (HCMUT), Vietnam

B.Eng. in Computer Science (GPA: 3.69/4)

Oct 2020 – Jun 2024

Research Experience

Qualcomm AI Research, Vietnam

AI Research Resident

Feb 2025 – Jan 2026

- **Knowledge Editing for Large Language Models:** Discovered a novel mechanism underlying perturbation-based editing methods and developed a routing-based editing framework that replaces direct weight updates. The approach enables **efficient sequential editing** while **preserving base model performance**, significantly reducing degradation compared to existing methods.
- **Agentic AI:** Improved task performance from **75% to 97% accuracy** on unstructured data by integrating **temporal information modeling, LLM-aware chunking strategies, and prompt optimization**. The system outperforms prior approaches such as **HippoRAG** in complex QA scenarios.

VinAI, Vietnam

AI Research Resident

Aug 2024 – Feb 2025

- Developed **KEALLM (Knowledge Graph Embedding Augmented LLM)**, a framework that integrates knowledge graph embeddings into the generation process of large language models to improve factual consistency. Unlike traditional knowledge graph traversal-based approaches, which require combinatorial expansion with exponential growth during multi-hop reasoning, KEALLM replaces explicit traversal with embedding-based retrieval in latent space. This design significantly improves efficiency and scalability, enabling faster inference while maintaining competitive reasoning performance.

VNPT Lab – HCMUT, Vietnam

Undergraduate Researcher

Oct 2022 – 2024

- **Vietnamese Large Language Models:** Contributed to the development and comprehensive evaluation of Vietnamese LLMs, including fine-tuning strategies and benchmarking across diverse NLP tasks. This project was supported by the **Microsoft Accelerate Foundation Models Research (AMFR)** program. The work resulted in a publication at NAACL 2024. [Project Link]
- **Bahnaric–Vietnamese Neural Machine Translation:** Developed a neural machine translation system for a low-resource language pair, addressing data scarcity through tailored modeling and training strategies, and contributing to language preservation efforts.

Selected Publications

- **Dong Le**, Thong Nguyen, Cong-Duy Nguyen, Anh-Tuan Luu.
Don't Read Everything: A Curvature-Conditioned Query for Linear Attention.
Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2026.
- Hoang Pham, **Dong Le**, Anh-Tuan Luu.
GRACE: Step-Level Benchmark for Faithful Reasoning over Context.
Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**), 2026.
- **Dong D. Le***, Sang T. Truong*, Duc Q. Nguyen*, Toan Nguyen*, Nhi N. Truong*, Tho Quan, Sanmi Koyejo.

Crossing Linguistic Horizons: Finetuning and Comprehensive Evaluation of Vietnamese Large Language Models.
Proceedings of NAACL (**NAACL**), 2024.

Fellowships and Scholarships

Microsoft Accelerate Foundation Models Research (AMFR), \$60,000	2023–2025
Academic Incentive Scholarship	2022–2024

Technical Skills

Programming: Python, C/C++, Go, JavaScript, SQL
Frameworks: PyTorch, TensorFlow, HuggingFace Transformers
Systems: Linux, Docker, Distributed Training, vLLM
Tools: Git

References

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