

Hieu Tran

michael.tranhieu@gmail.com | fatebreaker.github.io

RESEARCH INTERESTS

My primary research interest is enabling LLMs to understand, generate, and reason about human language to enhance their ability to perform complex cognitive and language-related tasks. Recently, I have expanded my work to advanced topics such as Reinforcement Learning and Test Time Computing, with a particular emphasis on improving the reasoning capabilities, factual accuracy, and efficiency of language models in both general and domain-specific applications.

EDUCATION

University of Massachusetts, Amherst (UMass)

Computer Science PhD student

- CPA: 3.92/4.0

Aug. 2022 - now

Massachusetts, USA

Hanoi University of Science and Technology (HUST)

Engineer's Degree in Computer Science

- CPA: 3.6/4.0 (top 1.3%), graduated with Excellent Degree

Aug. 2014 - Aug. 2019

Hanoi, Vietnam

Bien Hoa High School for The Gifted

Specialized in Informatics

Sep. 2011 - Sep. 2014

Hanam, Vietnam

RESEARCH EXPERIENCE

Computer Science PhD student

BioNLP lab (<https://bio-nlp.org>)

- Advisor: Prof. Hong Yu ([google scholar](#))
- Research Topic: Large Language Models for Medical

Aug 2022 - now

Massachusetts, USA

Research Intern

United Imaging Intelligence (<http://www.uui-ai.com>)

- Supervisor: Dr. Weijing Huang ([google scholar](#))
- Working on fact-checking of LLMs responses

May 2024 - Aug 2024

Boston, USA

AI Research Resident

VinAI Research (www.vinai.io)

- Supervisor: Prof. Thien Huu Nguyen ([google scholar](#))
- Research Topic: Information Extraction

Nov 2019 - Jun 2022

Hanoi, Vietnam

Applied Rotation Program

VinAI Research

- Supervisor: Dr. Duy Tin Vo ([google scholar](#)), Dr. Dat Quoc Nguyen ([google scholar](#))
- Working on knowledge-based question answering and machine translation problem

May 2021 - Sep 2021

Hanoi, Vietnam

PUBLICATIONS

RARE: Retrieval-Augmented Reasoning Enhancement for Large Language Models

Hieu Tran, Zonghai Yao, Junda Wang, Yifan Zhang, Zhichao Yang, Hong Yu

Proceedings of ACL 2025

2024

SemiHVision: Enhancing Medical Multimodal Models with a Semi-Human Annotated Dataset and Fine-Tuned Instruction Generation

Junda Wang, Yujan Ting, Eric Z. Chen, **Hieu Tran**, Hong Yu, Weijing Huang, Terrence Chen

Under review

2024

LEAF: Learning and Evaluation Augmented by Fact-Checking to Improve Factualness in Large Language Models

Hieu Tran, Junda Wang, Yujan Ting, Weijing Huang, Terrence Chen

Under review

2024

BioInstruct: Instruction Tuning of Large Language Models for Biomedical Natural Language Processing

Hieu Tran, Zhichao Yang, Zonghai Yao, Hong Yu

Journal of the American Medical Informatics Association, ocae122

2024

Readme: Bridging medical jargon and lay understanding for patient education through data-centric nlp

2023

Zonghai Yao, Nandyala Siddharth Kantu, Guanghao Wei, **Hieu Tran**, Zhangqi Duan, Sunjae Kwon, Zhichao Yang, Hong Yu

Proceedings of EMNLP 2024 (Findings)

A Vietnamese-English Neural Machine Translation System

2022

Thien Hai Nguyen, Tuan-Duy H. Nguyen, Duy Phung, Duy Tran-Cong Nguyen, **Hieu Minh Tran**, Manh Luong, Tin Duy Vo, Hung Hai Bui, Dinh Phung, Dat Quoc Nguyen

Proceedings of InterSpeech 2022 - Show & Tell Demonstrations

Exploiting Document Structures and Cluster Consistencies for Event Coreference Resolution

2021

Hieu Tran, Duy Phung, Thien Huu Nguyen

Proceedings of ACL-IJCNLP 2021 (oral presentation)

Learning Cross-lingual Representations for Event Coreference Resolution with Multi-view Alignment and Optimal Transport

2021

Duy Phung, **Hieu Tran**, Thien Huu Nguyen

Proceedings of the first Workshop on Multilingual Representation Learning (MRL 2021) at EMNLP 2021

Vietnamese Speech-based Question Answering over Car Manuals

2021

Tin Duy Vo, Manh Tien Luong, Duong Minh Le, **Hieu Tran**, Nhan Tri Do, Duy Nguyen, Thien Hai Nguyen, Hung Hai Bui, Dat Quoc Nguyen, Dinh Quoc Phung

Proceedings of Data-Centric AI workshop NeurIPS 2021

The Dots Have Their Values: Exploiting the Node-Edge Connection in Graph-based Neural Models for Document-level Relation Extraction

2020

Hieu Tran, Minh Trung Nguyen, Thien Huu Nguyen

Proceedings of EMNLP 2020 (Findings)

HONORS AND AWARDS

The Excellence Scholarship - Level A

2015

School of Information and Communication Technology, HUST

Each semester top 5% of students with greatest academic performance are awarded

National Excellent Student Award

2014

Vietnam Ministry of Education and Training

Third prize in Informatics subject, National Excellent High School Student Contest

ACTIVITIES

Technical Talk

August 2021

AI Day 2021: Empowering Innovations – website: <https://www.vinai.io/aiday2021>

Present at AI Day 2021 - the event which welcomed technical talks from top researchers around the world and attracted over 20,000 views online

Invited speaker

October 2021

Public Natural Language Processing workshop organized by VinAI Researrch.

CERTIFICATES

Deep Learning Specialization by deeplearning.ai

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Models

LANGUAGES

- **Vietnamese:** Native

- **English:** Fluent

IELTS: Overall 7.0, Listening 7.5, Reading 8.5, Writing 6.5, Speaking 6.0