Tu Vu

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https://tuvllms.github.io

Appointments

Virginia Tech August 2024 —
Assistant Professor, Computer Science
Research Interests: *large language models & transfer learning*

Google DeepMind May 2024 —
Research Scientist

Google Research August 2023 — May 2024
Research Scientist

Education

University of Massachusetts, Amherst 2016 — 2023
M.S/Ph.D. in Computer Science
Advisor: Mohit Iyyer 2018 — 2023
Thesis committee: Mohit Iyyer, Subhransu Maji, Hamed Zamani, Thang Luong, Colin Raffel

Vietnam National University, Hanoi 2009 — 2013
B.S. Honors Program in Computer Science
Highest distinction (class rank: 1/100)

Professional Experience

Google Deepmind Fall 2022 — Spring 2023
Student Researcher *with* Thang Luong & Quoc Le

Google Deepmind Summer 2022
Research Intern *with* Thibault Sellam & Elizabeth Clark

Google Deepmind Winter 2021 — Spring 2022
Student Researcher *with* Noah Constant

Google Research Summer 2021 — Fall 2021
Research Intern & Student Researcher *with* Daniel Cer & Noah Constant

Google Deepmind Winter 2020 — Spring 2021
Student Researcher *with* Thang Luong & Quoc Le

Google Research Summer 2020
Research Intern *with* Grady Simon & Zi Yang & Nan Hua

Microsoft Research Summer 2019
Research Intern *with* Tong Wang & Tsendsuren Munkhdalai & Adam Trischler

Selected Preprints & Publications

For an up-to-date list of my research papers, please see my Google Scholar profile or my Semantic Scholar profile.

FreshLLMs: Refreshing Large Language Models with Search Engine Augmentation
Tu Vu, Mohit Iyyer, Xuezhi Wang, Noah Constant, Jerry Wei, Jason Wei, Chris Tar, Yun-Hsuan Sung, Denny Zhou, Quoc Le, and Thang Luong
arXiv preprint 2023

The Flan Collection: Designing Data and Methods for Effective Instruction Tuning
Shayne Longpre, Le Hou, **Tu Vu**, Albert Webson, Hyung Won Chung, Yi Tay, Denny Zhou, Quoc V Le, Barret Zoph, Jason Wei, and Adam Roberts
ICML 2023

Mixture-of-experts meets instruction tuning: A winning combination for large language models
Sheng Shen, Le Hou, Yanqi Zhou, Nan Du, Shayne Longpre, Jason Wei, Hyung Won Chung, Barret Zoph, William Fedus, Xinyun Chen, **Tu Vu**, Yuexin Wu, Wuyang Chen, Albert Webson, Yunxuan Li, Vincent Zhao, Hongkun Yu, Kurt Keutzer, Trevor Darrell, and Denny Zhou
ICLR 2024

SPoT: Better Frozen Model Adaptation through Soft Prompt Transfer
Tu Vu, Brian Lester, Noah Constant, Rami Al-Rfou, and Daniel Cer
ACL 2022

Overcoming Catastrophic Forgetting in Zero-Shot Cross-Lingual Generation
Tu Vu, Aditya Barua, Brian Lester, Daniel Cer, Mohit Iyyer, and Noah Constant
EMNLP 2022

STraTA: Self-Training with Task Augmentation for Better Few-shot Learning
Tu Vu, Minh-Thang Luong, Quoc Le, Grady Simon, and Mohit Iyyer
EMNLP 2021

Exploring and Predicting Transferability across NLP Tasks
Tu Vu, Tong Wang, Tsendsuren Munkhdalai, Alessandro Sordoni, Adam Trischler, Andrew Mattarella-Micke, Subhransu Maji, and Mohit Iyyer
EMNLP 2020

Recent Invited Talks

Efficient Adaptation of Large Language Models — November 2023
Graph Neural Networks Reading Group, **Google**

Effective and Efficient Transfer Learning in the Era of Large Language Models — Spring 2023
Faculty job talk

Overcoming Catastrophic Forgetting in Zero-Shot Cross-Lingual Generation — October 2022
Parameter Efficient Tuning Methods Sync, **Google**

Transfer Learning with Large-scale Language Models — August 2022
Lecture at **VietAI**

The Appeal of Parameter-efficient Transfer Learning — June 2022
Natural Language Accelerated Team, **Google**

SPoT: Better Frozen Model Adaptation through Soft Prompt Transfer — December 2021
Parameter Efficient Tuning Methods Sync, **Google**

Academic Service

Area Chair for ACL Rolling Review (ARR)

Program Committee/Reviewer for various conferences and workshops: NeurIPS, COLM, ARR, ACL, EMNLP, NAACL, COLING, CoNLL, INLG

Selected Media

FreshLLMs: ZDNET — 2023

The Flan Collection: Google Research Blog — 2023

SPoT: Headlines of Google AI's Natural Language Accelerated Newsletter — Q1, 2022

Selected Awards & Honors & Funding

Google Student Researcherships — 2020 — 2023

UMass Amherst Graduate Assistantships — 2016 — 2023

Honda Y-E-S Award for young engineers and scientists, Vietnam — 2013
(in the top 10 nationally)

Outstanding Academic and Co-curricular Achievements, Vietnam National University — 2013

Prominent Young Figure Award, Vietnam National University — 2010 & 2012

First Runner-up Prize, International Programming Contest, Japan — 2011
(2^{nd} among 64 teams internationally)

Outstanding Young Talent of the Capital City, Vietnam — 2010
(in the top 100 most outstanding young talents selected from a wide range of fields)

Champion Prize, National Mathematical Olympiad, Vietnam — 2010
(1^{st} among more than 600 contestants nationally)

A number of prizes in National/International Olympiads — 2009 — 2013
(in both Mathematics and Informatics)

A number of academic scholarships for undergraduate students — 2009 — 2013

Patents

*: original inventor

Frozen Model Adaptation Through Soft Prompt Transfer
Tu Vu, Brian Lester, Noah Constant, Rami Al-Rfou, Daniel Cer
U.S. Patent Application, 17/863,840

Task Augmentation and Self-training for Improved Few-shot Learning
Thang Luong, **Tu Vu***, Quoc Le, Grady Simon
U.S. Patent Application, 17/826,690