# Tu Vu

#### tuv@vt.edu

# https://tuvllms.github.io

#### APPOINTMENTS

Virginia Tech August 2024 —

Assistant Professor, Computer Science

Research Interests: large language models & transfer learning

Google Research August 2023 — present

Research Scientist

#### **EDUCATION**

University of Massachusetts, Amherst 2016 — 2023

M.S/Ph.D. in Computer Science

Advisor: Mohit Iyyer 2018 — 2023

2009 - 2013

Thesis committee: Mohit Iyyer, Subhransu Maji, Hamed Zamani, Thang Luong, Colin Raffel

Vietnam National University, Hanoi

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

Parameter Efficient Tuning Methods Sync, Google

**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 Graph Neural Networks Reading Group, Google	November 2023
Effective and Efficient Transfer Learning in the Era of Large Language Models  Faculty job talk	Spring 2023
Overcoming Catastrophic Forgetting in Zero-Shot Cross-Lingual Generation Parameter Efficient Tuning Methods Sync, <b>Google</b>	October 2022
Transfer Learning with Large-scale Language Models Lecture at <b>VietAI</b>	August 2022
The Appeal of Parameter-efficient Transfer Learning Natural Language Accelerated Team, <b>Google</b>	June 2022
SPoT: Better Frozen Model Adaptation through Soft Prompt Transfer	December 2021

#### 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 (in the top 10 nationally)	2013
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 $(2^{nd} \text{ among } 64 \text{ teams internationally})$	2011
Outstanding Young Talent of the Capital City, Vietnam (in the top 100 most outstanding young talents selected from a wide range of fields)	2010
Champion Prize, National Mathematical Olympiad, Vietnam $(1^{st}$ among more than 600 contestants nationally)	2010
A number of prizes in National/International Olympiads (in both Mathematics and Informatics)	2009 — 2013
A number of academic scholarships for undergraduate students	2009 — 2013

# \*: original inventor

PATENTS

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