Tu Vu

tuv@vt.edu

https://tuvllms.github.io

Appointments

| Virginia TechAssistant Professor, Computer ScienceResearch Interests: large language models & transfer learning | August 2024 — |
|--|-------------------------------------|
| Google DeepMind Research Scientist | May 2024 — |
| Google Research Research Scientist | August 2023 — May 2024 |
| EDUCATION | |
| University of Massachusetts, Amherst M.S/PH.D. in Computer Science Advisor: Mohit Iyyer | 2016 - 2023 2018 - 2023 |
| Thesis committee: Mohit Iyyer, Subhransu Maji, Hamed Zamani | |
| Vietnam National University, Hanoi B.S. Honors Program in Computer Science Highest distinction (class rank: 1/100) | 2009 - 2013 |
| Professional Experience | |
| Google DeepMind Student Researcher with Thang Luong \mathcal{C} Quoc Le | Fall 2022 — Spring 2023 |
| Google DeepMind Research Intern with Thibault Sellam & Elizabeth Clark | Summer 2022 |
| Google DeepMind Student Researcher with Noah Constant | Winter $2021 - $ Spring 2022 |
| Google Research Research Intern & Student Researcher <i>with</i> Daniel Cer & Noah (| Summer 2021 — Fall 2021 Constant |
| Google DeepMind Student Researcher <i>with</i> Thang Luong & Quoc Le | Winter $2020 - $ Spring 2021 |
| Google Research Research Intern with Grady Simon & Zi Yang & Nan Hua | Summer 2020 |
| Microsoft Research Research Intern with Tong Wang & Tsendsuren Munkhdala i ${\mathcal B}$ A | Summer 2019 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 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, Google | October 2022 |
| Transfer Learning with Large-scale Language Models Lecture at VietAI | August 2022 |

| The Appeal of Parameter-efficient Transfer Learning Natural Language Accelerated Team, Google | June 2022 |
|--|-----------------|
| SPoT: Better Frozen Model Adaptation through Soft Prompt Transfer Parameter Efficient Tuning Methods Sync, Google | December 2021 |
| Academic Service | |
| Area Chair for ACL ROLLING REVIEW (ARR) Program Committee/Reviewer for various conferences and workshops: Neur ACL, EMNLP, NAACL, COLING, CONLL, INLG | IPS, COLM, ARR, |
| 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 Researcherships2020 — 2023UMass Amherst Graduate Assistantships2016 — 2023Honda Y-E-S Award for young engineers and scientists, Vietnam (in the top 10 nationally)2013Outstanding Academic and Co-curricular Achievements, Vietnam National University2010 & 2013Prominent Young Figure Award, Vietnam National University2010 & 2011First Runner-up Prize, International Programming Contest, Japan (2 nd among 64 teams internationally)2010Outstanding Young Talent of the Capital City, Vietnam (in the top 100 most outstanding young talents selected from a wide range of fields)2010Champion Prize, National Mathematical Olympiad, Vietnam (1 st among more than 600 contestants nationally)2009 — 2013A number of prizes in National/International Olympiads (in both Mathematics and Informatics)2009 — 2013A number of academic scholarships for undergraduate students2009 — 2013 | | | |
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| Prominent Young Figure Award, Vietnam National University2010 & 2012First Runner-up Prize, International Programming Contest, Japan (2 nd among 64 teams internationally)2011Outstanding Young Talent of the Capital City, Vietnam (in the top 100 most outstanding young talents selected from a wide range of fields)2010Champion Prize, National Mathematical Olympiad, Vietnam (1 st among more than 600 contestants nationally)2010A number of prizes in National/International Olympiads (in both Mathematics and Informatics)2009 — 2013A number of academic scholarships for undergraduate students2009 — 2013 | | | 2013 |
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| | | | 2009 - 2013 |
| Patents | | A number of academic scholarships for undergraduate students | 2009 - 2013 |
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*: 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