Han **Guo**

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Edu**cation**

Massachusetts Institute of Technology   *Cambridge, MA*

PH.D. IN EECS   *Fall 2024 -*

- **Advisors:** *Prof. Yoon Kim* and *Prof. Eric P. Xing*
- Language Technologies Institute, Carnegie Mellon University (2020-2024)

University of North Carolina at Chapel Hill   *Chapel Hill, NC*

B.S. IN COMPUTER SCIENCE AND STATISTICS   *2016 - 2020*

- **Advisor:** *Prof. Mohit Bansal (UNC-NLP Lab)*

Pub**lications**

LQ-LoRA: Low-rank Plus Quantized Matrix Decomposition for Efficient Language Model Finetuning [pdf]
Han Guo, Philip Greengard, Eric P. Xing, Yoon Kim.
ICLR 2024

Federated Learning as Variational Inference: A Scalable Expectation Propagation Approach [pdf]
Han Guo, Philip Greengard, Hongyi Wang, Andrew Gelman, Yoon Kim*, Eric P. Xing*.
ICLR 2023

MPCFormer: Fast, Performant and Private Transformer Inference with MPC [pdf]
Dacheng Li*, Rulin Shao*, Hongyi Wang*, Han Guo, Eric P. Xing, Hao Zhang.
ICLR 2023 (Notable-top-25%)

RLPrompt: Optimizing Discrete Text Prompts With Reinforcement Learning [pdf]
Mingkai Deng*, Jianyu Wang*, Cheng-Ping Hsieh*, Yihan Wang, Han Guo, Tianmin Shu, Meng Song, Eric P. Xing, Zhiting Hu.
EMNLP 2022

Efficient (Soft) Q-Learning for Text Generation with Limited Good Data [pdf]
Han Guo, Bowen Tan, Zhengzhong Liu, Eric P Xing, Zhiting Hu.
EMNLP 2022 Findings

VisualGPT: Data-efficient Image Captioning by Balancing Visual Input and Linguistic Knowledge from Pretraining [pdf]
Jun Chen, Han Guo, Kai Yi, Boyang Li, Mohamed Elhoseiny.
CVPR 2022

Uncertainty Toolbox: an Open-Source Library for Assessing, Visualizing, and Improving Uncertainty Quantification [pdf]
Youngseog Chung, Ian Char, Han Guo, Jeff Schneider, Willie Neiswanger.
Uncertainty and Robustness in Deep Learning Workshop, ICML 2021

FastIF: Scalable Influence Functions for Efficient Model Interpretation and Debugging [pdf]
Han Guo, Nazneen Fatema Rajani, Peter Hase, Mohit Bansal, Caiming Xiong.
EMNLP 2021.

An Overview of Uncertainty Calibration for Text Classification and the Role of Distillation [pdf]
Han Guo, Ramakanth Pasunuru, and Mohit Bansal.
RepL4NLP Workshop, ACL 2021

DORB: Dynamically Optimizing Multiple Rewards with Bandits [pdf]
Ramakanth Pasunuru, Han Guo, and Mohit Bansal.
EMNLP 2020.

Multi-Source Domain Adaptation for Text Classification via DistanceNet-Bandits [pdf]
Han Guo, Ramakanth Pasunuru, and Mohit Bansal.
AAAI 2020

AutoSeM: Automatic Task Selection and Mixing in Multi-Task Learning [slides] [pdf]
Han Guo, Ramakanth Pasunuru, and Mohit Bansal.
NAACL 2019

Dynamic Multi-Level Multi-Task Learning for Sentence Simplification [pdf]
Han Guo, Ramakanth Pasunuru, and Mohit Bansal.
COLING 2018 ("Area Chair Favorites" Paper Award)

Soft, Layer-Specific Multi-Task Summarization with Entailment and Question Generation [pdf]
Han Guo*, Ramakanth Pasunuru*, and Mohit Bansal.
ACL 2018

Interactive-Length Multi-Task Video Captioning with Cooperative Feedback [link]
Han Guo, Ramakanth Pasunuru, and Mohit Bansal.
NeurIPS 2017 (demo papers)

Towards Improving Abstractive Summarization via Entailment Generation [pdf]
Ramakanth Pasunuru, Han Guo, and Mohit Bansal.
Workshop on Summarization Frontiers, EMNLP 2017

Experience

Research Intern   *Cambridge, MA*
MIT-IBM Watson AI Lab   *2021.6 - 2021.8*
• Advisor: Yoon Kim

Research Intern   *Palo Alto, CA*
Salesforce Research   *2020.6 - 2020.8*
• Advisors: Caiming Xiong, Nazneen Fatema Rajani

Research Intern   *Sunnyvale, CA*
Baidu Research   *2019.5 - 2019.8*
• Advisor: Boyang Li

Undergraduate Learning Assistant   *Chapel Hill, NC*
UNC Department of Computer Science   *2017.2 - 2017.5*
• COMP116 "Introduction to Scientific Computing" course (MATLAB).

Awards/Honors

2023.08   **Machine Learning and Systems Rising Stars**
2022.10   **Microsoft Research Ph.D. Fellowship**
2019.12   **Finalist, 2020 CRA Outstanding Undergraduate Researchers**
2019.9   **Phi Beta Kappa**
2019.1   **Honorable Mention, 2019 Computing Research Association Outstanding Undergraduate Researchers**
2018.6   **Area Chair Favorites Paper Award, COLING 2018**
2017-2019 **Travel Awards**
          OUR Travel Award (2017), ACL Travel Award (2018), WeCNLP Travel Grant (2019).