Ziqi Wang

ziqiw9@illinois.edu | Google scholar | Homepage | Linkedin | (217)751-2040

Education

University of Illinois Urbana-Champaign — Urbana-Champaign, U.S.
Ph.D. Computer Science — *Aug. 2021 – Present*

- GPA: 4.00/4.00
- Member of BLENDER Lab
- Advisor: Prof. Heng Ji

Tsinghua University — Beijing, China
B.E. Computer Science and Technology — *Aug. 2016 – Jun. 2021*

- GPA: 3.83/4.00
- Member of Tsinghua Natural Language Processing Lab (THUNLP)
- Advisor: Prof. Zhiyuan Liu
- Member of Student Association of Science and Technology

Publications

(* denotes equal contribution)

2023

- **Ziqi Wang**, Le Hou, Tianjian Lu, Yuexin Wu, Yunxuan Li, Hongkun Yu, Heng Ji. 'Enable Language Models to Implicitly Learn Self-Improvement From Data'. **Preprint**
- Tianci Xue, **Ziqi Wang**, Heng Ji. 'Parameter-Efficient Tuning Helps Language Model Alignment'. **Preprint**
- Tianci Xue, **Ziqi Wang**, Yixia Li, Yun Chen, Guanhua Chen. 'TADIS: Steering Models for Deep-Thinking about Demonstration Examples'. **Preprint**
- Chi Han, **Ziqi Wang**, Han Zhao, Heng Ji. 'In-Context Learning of Large Language Models Explained as Kernel Regression'. **Preprint**
- Tianci Xue, **Ziqi Wang**, Zhenhailong Wang, Chi Han, Pengfei Yu, Heng Ji. 'RCOT: Detecting and Rectifying Factual Inconsistency in Reasoning by Reversing Chain-of-Thought'. **Preprint**
- **Ziqi Wang**, Chi Han, Wenxuan Bao, Heng Ji. 'Understanding the Effect of Data Augmentation in the Knowledge Distillation'. **Preprint**
- **Ziqi Wang**, Yuexin Wu, Frederick Liu, Daogao Liu, Le Hou, Hongkun Yu, Jing Li, Heng Ji. 'Augmentation with Projection: Towards an Effective and Efficient Data Augmentation Paradigm for Distillation'. **ICLR 2023 (Poster)**
- Xiao Li*, **Ziqi Wang***, Bo Zhang, Fuchun Sun, Xiaolin Hu. 'Recognizing Object by Components with Human Prior Knowledge Enhances Adversarial Robustness of Deep Neural Networks'. **IEEE TPAMI**

2022

- Xinya Du, Zixuan Zhang, Sha Li, **Ziqi Wang**, et al. 'RESIN-11: Schema-guided Event Prediction for 11 Newsworthy Scenarios'. **NAACL-HLT 2022 (System Demonstrations)**
- Manling Li, Revanth Reddy, **Ziqi Wang**, Yi-Shyuan Chiang, Tuan M. Lai, Pengfei Yu, Zixuan Zhang, Heng Ji. 'COVID-19 Claim Radar: A Structured Claim Extraction and Tracking System'. **ACL 2022 (System Demonstrations)**
- Lingjie Mei*, Jiayuan Mao*, **Ziqi Wang**, Chuang Gan, Joshua B. Tenenbaum. 'FALCON: Fast Visual Concept Learning by Integrating Images, Linguistic descriptions, and Conceptual Relations'. **ICLR 2022 (Poster)**

2021

- **Ziqi Wang***, Xiaozhi Wang*, Xu Han, Yankai Lin, Lei Hou, Zhiyuan Liu, Peng Li, Juanzi Li, Jie Zhou. 'CLEVE: Contrastive Pre-training for Event Extraction'. **ACL-IJCNLP 2021 (Long)**

2020

- **Ziqi Wang***, Yujia Qin*, Wenxuan Zhou, Jun Yan, Qinyuan Ye, Leonardo Neves, Zhiyuan Liu, Xiang Ren. 'Learning from Explanations with Neural Execution Tree'. **ICLR 2020 (Poster)**
- Xiaozhi Wang, **Ziqi Wang**, Xu Han, Wangyi Jiang, Rong Han, Zhiyuan Liu, Juanzi Li, Peng Li, Yankai Lin, Jie Zhou. 'MAVEN: A Massive General Domain Event Detection Dataset'. **EMNLP 2020 (Long)**

- Wenxuan Zhou, Hongtao Lin, Bill Yuchen Lin, **Ziqi Wang**, Junyi Du, Leonardo Neves, Xiang Ren. 'NERO: A Neural Rule Grounding Framework for Label-Efficient Relation Extraction'. **WWW 2020 (Best Paper Runner-Up, 2/1500+)**

2019

- Xiaozhi Wang*, **Ziqi Wang***, Xu Han, Zhiyuan Liu, Juanzi Li, Peng Li, Maosong Sun, Jie Zhou, Xiang Ren. 'HMEAE: Hierarchical Modular Event Argument Extraction'. **EMNLP-IJCNLP 2019 (Short, Oral)**

Work Experience

Google Sunnyvale, CA, U.S.

Software Engineering Intern (Full-time), Host: Dr. Le Hou *May. 2023 – Aug. 2023*

- We focus on LLMs' self-improvement ability. To be specific, we propose a RLHF methods that could enable the model to self-improve its outputs without explicitly prompting. Besides, our method achieves better self-improvement results compared with prompting techniques. We have released the preprint version on Arxiv.

Google Bellevue, WA, U.S.

Student Researcher (Part-time), Host: Dr. Yuexin Wu *Aug. 2022 – Present*

Software Engineering Intern (Full-time), Host: Dr. Yuexin Wu *May. 2022 – Aug. 2022*

- We focus on data augmentation in distillation scenarios. We propose an efficient and effective data augmentation method for NLP distillation tasks. The results show that our method helps the distillation significantly improve performance across all GLUE tasks. The paper has been accepted by ICLR 2023.

Research Experience

University of Illinois Urbana-Champaign Urbana-Champaign, IL, U.S.

Research Assistant, Advisor: Prof. Heng Ji *Aug. 2021 – Present*

- Working on language models. My work aims to develop AI to help humans understand and improve the world, promoting human evolution.

Tsinghua University Beijing, China

Research Assistant, Advisor: Prof. Xiaolin Hu *Jan. 2021 – Jun. 2021*

- Undergraduate thesis: A knowledge-driven method to defend adversarial attack on image classification.
- Use the topological relationships of components to verify the results of image segmentation. These verified results are used to do image recognition, thereby enhancing the performance of image recognition on adversarial examples.

University of Southern California Los Angeles, U.S.

Research Assistant, Advisor: Prof. Xiang Ren *Jul. 2019 – Oct. 2019*

- Proposed a framework that use human explanations to do data augmentation, which can significantly improve downstream classifier's performance under low-resource setting. (ICLR 2020)
- Proposed a framework that use annotated surface pattern to do data augmentation, under such situation, people will only need a little extra effort and the performance of classifier on RE task will improve significantly (WWW 2020)

Tsinghua University Beijing, China

Research Assistant, Advisor: Prof. Zhiyuan Liu *Dec. 2018 – Jan. 2021*

- Proposed a model that use hierarchical modules to guide event argument extraction, which can improve performance and interpretability of neural networks. (EMNLP-IJCNLP 2019)
- Built an event detection dataset that is much more complicated and authentic than existed dataset. (EMNLP 2020)
- Incorporate contrastive learning and mutual information optimization into event extraction. (ACL-IJCNLP 2021)

Service

Reviewer: ICLR 2024, NeurIPS 2023, ACL Demo 2023, Pattern Recognition
Review Assistant: AAAI 2020

Awards and Honors

- Magna Cum Laude, Tsinghua University, 2021
- Scholarship for Outstanding Academic Performance, Tsinghua University, 2017, 2018, 2019, 2020
- Scholarship for Outstanding Research Performance, Tsinghua University, 2020
- Scholarship for Outstanding Social Work Performance, Tsinghua University, 2017
- Scholarship for Comprehensive excellence, Tsinghua University, 2017