Kai Zhang

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EDUCATION

The Ohio State University   Ohio, USA
Ph.D. in Computer Science and Engineering   Aug 2022-May 2027 (Expected)
- **GPA**: 4.0/4.0

Zhejiang University City College   Zhejiang, China
B.E. in Computer Science and Technology   Sept 2016-Jun 2020
- **GPA**: 3.99/4.0 (93.51/100)   **Rank**: 1/118

RESEARCH EXPERIENCE

Google DeepMind   Washington, USA
Student Researcher; Host: Yi Luan, Hexiang (Frank) Hu, and Ming-Wei Chang   Aug 2023-Present

OSU NLP Group, The Ohio State University   Ohio, USA
Research Assistant; Advisor: Yu Su   Aug 2022-Present

STCA Semantics and Knowledge Team, Microsoft   Beijing, China
Research Intern; Host: Chongyang Tao and Tao Shen   Mar 2022-July 2022

Minds, Machines, and Society Group, Dartmouth College   New Hampshire, USA
Research Intern; Advisor: Soroush Vosoughi   Jun 2020-Sept 2020

THU NLP Group, Tsinghua University   Beijing, China
Research Assistant; Advisor: Zhiyuan Liu   Nov 2019-Mar 2021

CCAI, Zhejiang University City College   Zhejiang, China
Research Assistant; Advisors: Lin Sun and Fanwei Zhu   Jan 2018-Nov 2019

SELECTED PUBLICATIONS

(* indicates equal contribution, † indicates first student author, # indicates work (co-)supervised by me.)

1. *Adaptive Chameleon or Stubborn Sloth*: **Revealing the Behavior of Large Language Models in Knowledge Conflicts**
   # Jian Xie*, Kai Zhang*, Jiangjie Chen, Renze Lou, and Yu Su
   In ICLR (**Spotlight**), 2024.

2. **MUFFIN: Curating Multi-Faceted Instructions for Improving Instruction-Following**
   Renze Lou, Kai Zhang, Jian Xie, Yuxuan Sun, Janice Ahn, Hanzi Xu, Yu Su, and Wenpeng Yin.
   In ICLR, 2024.

3. **ImagenHub: Standardizing the Evaluation of Conditional Image Generation Models**
   Max Ku, Tianle Li, Kai Zhang, Yujie Lu, Xingyu Fu, Wenwen Zhuang, and Wenhu Chen.
   In ICLR, 2024.

4. **UMIE: Unified Multimodal Information Extraction with Instruction Tuning**
   # Lin Sun*, Kai Zhang*, Qingyuan Li*, and Renze Lou
   In AAAI (**Oral**), 2024

5. **PathAsst: Redefining Pathology through Generative Foundation AI Assistant for Pathology**
   Yuxuan Sun, Chenglu Zhu, Sunyi Zheng, Kai Zhang, Zhongyi Shui, Xiaoxuan Yu, Yizhi Zhao, Honglin Li, Yunlong Zhang, Ruojia Zhao, Xinheng Lyu, and Lin Yang.
   In AAAI (**Oral**), 2024

6. **Automatic Evaluation of Attribution by Large Language Models**
   Xiang Yue, Boshi Wang, Ziru Chen, Kai Zhang, Yu Su, and Huan Sun
   In Findings of EMNLP, 2023.

7. **MagicBrush: A Manually Annotated Dataset for Instruction-Guided Image Editing**
   Kai Zhang*, Lingbo Mo*, Wenhu Chen, Huan Sun, and Yu Su
   In NeurIPS Datasets and Benchmarks, 2023.

8. **UnifieR: A Unified Retriever for Large-Scale Retrieval**
   Tao Shen, Xiubo Geng, Chongyang Tao, Can Xu, Guodong Long, Kai Zhang, and Daxin Jiang
   In KDD, 2023.

9. **ChatDoctor: A Medical Chat Model Fine-Tuned on a Large Language Model Meta-AI (LLaMA) Using Medical Domain Knowledge**
   Yunxiang Li, Zihan Li, Kai Zhang, Ruilong Dan, and You Zhang
   In Cureus, 2023.

10. **Aligning Instruction Tasks Unlocks Large Language Models as Zero-Shot Relation Extractors**
    Kai Zhang, Bernal Jiménez Gutiérrez, Yu Su
    In Findings of ACL, 2023.

11. **LED: Lexicon-Enlightened Dense Retriever for Large-Scale Retrieval**
    Kai Zhang, Chongyang Tao, Tao Shen, Can Xu, Xiubo Geng, Binxing Jiao, and Daxin Jiang
    In WWW **(Oral)**, 2023.

12. **GradTS: A Gradient-Based Automatic Auxiliary Task Selection Method Based on Transformer Network**
    Weicheng Ma, Renze Lou, Kai Zhang, Lili Wang, and Soroush Vosoughi
    In EMNLP, 2021.

13. **Unified and Incremental SimRank: Index-free Approximation with Scheduled Principle**
    Fanwei Zhu, Yuan Fang, Kai Zhang†, Kevin Chen-Chuan Chang, Hongtai Cao, Zhen Jiang, and Minghui Wu
    In IEEE TKDE, 2021.

14. **Contributions of Transformer Attention Heads in Multi- and Cross-lingual Tasks**
    Weicheng Ma*, Kai Zhang*, Renze Lou, Lili Wang, and Soroush Vosoughi
    In ACL **(Oral)**, 2021.

15. **Open Hierarchical Relation Extraction**
    Kai Zhang*, Yuan Yao*, Ruobing Xie, Xu Han, Zhiyuan Liu, Fen Lin, Leyu Lin, and Maosong Sun
    In NAACL-HLT, 2021.

16. **Adversarial Language Games for Advanced Natural Language Intelligence**
    Yuan Yao, Haoxi Zhong, Zhengyan Zhang, Xu Han, Xiaozhi Wang, Kai Zhang, Chaojun Xiao, Guoyang Zeng, Zhiyuan Liu, and Maosong Sun
    In AAAI, 2021.

17. **RpBERT: A Text-image Relation Propagation-based BERT Model for Multimodal NER**
    Lin Sun*, Jiquan Wang*, Kai Zhang, Fangsheng Weng, and Yindu Su
    In AAAI, 2021.

18. **TOI-CNN: A Solution of Information Extraction on Chinese Insurance Policy**
    Lin Sun*, Kai Zhang*†, Fule Ji, and Zhenhua Yang
    In NAACL-HLT, 2019.

PREPRINTS

1. **TravelPlanner: A Benchmark for Real-World Planning with Language Agents**
   # Jian Xie*, Kai Zhang*, Jiangjie Chen, Tinghui Zhu, Renze Lou, Yuandong Tian, Yanghua Xiao, Yu Su
   arXiv:2402.01622, 2024.

2. **Deductive Beam Search: Decoding Deducible Rationale for Chain-of-Thought Reasoning**
   # Tinghui Zhu*, Kai Zhang*, Jian Xie, Yu Su.
   arXiv:2401.17686, 2024.

3. **PathMMU: A Massive Multimodal Expert-Level Benchmark for Understanding and Reasoning in Pathology**
   Yuxuan Sun, Hao Wu, Chenglu Zhu, Sunyi Zheng, Qizi Chen, Kai Zhang, Yunlong Zhang, Xiaoxiao Lan, Mengyue Zheng, Jingxiong Li, Xinheng Lyu, Tao Lin, and Lin Yang.
   arXiv:2401.16355, 2024.

4. **A Massive Multi-discipline Multimodal Understanding and Reasoning Benchmark for Expert AGI**
   Xiang Yue*, Yuansheng Ni*, Kai Zhang*, Tianyu Zheng*, Ruoqi Liu, Ge Zhang, Samuel Stevens, Dongfu Jiang, Weiming Ren, Yuxuan Sun, Cong Wei, Botao Yu, Ruibin Yuan, Renliang Sun, Ming Yin, Boyuan Zheng, Zhenzhu Yang, Yibo Liu, Wenhao Huang, Huan Sun, Yu Su, and Wenhu Chen.
   arXiv:2311.16502, 2023.

5. **Multimodal Question Answering for Unified Information Extraction**
   # Yuxuan Sun*, Kai Zhang*, Yu Su.
   arXiv:2310.03017, 2023.

6. **Is Prompt All You Need? No. A Comprehensive and Broader View of Instruction Learning**
   Renze Lou, Kai Zhang, and Wenpeng Yin
   arXiv:2303.10475, 2023.

SELECTED HONORS & AWARDS

WWW 2023 Student Travel Award	2023
Honor for Seeking Truth & Commencement Student Speaker (Top 1), Zhejiang University City College	2020
National Scholarship (Top 1%), Ministry of Education of P.R.China	2019
Chinese College Students Self-Motivated Stars (Top 200 in China), All-China Students' Federation	2019
Merit-based Scholarship (Top 1%), Zhejiang University City College	2017-2019
Zhejiang Province Scholarship (Top 1%), Department of Education of Zhejiang	2017

INVITED TALKS

Aligning LLM Instruction Tasks for Zero-Shot Relation Extraction.
University of Notre Dame NLP Seminar. March 2023
AI TIME Seminar. May 2023
ACL'23 Matching Workshop. Jul 2023

MENTORING

Renze Lou (ZUCC BS → PSU PhD); 2019-2022; Instruction Tuning

Jian Xie (ZUCC BS → FDU MS); 2019-Present; Tool-Augmented LLMs, Language Agent

Yuxuan Sun (ZUCC BS → ZJU PhD); 2019-Present; Multimodality, Medical AI

Tinghui Zhu (FDU BS → FDU MS); 2023-Present; Reasoning

SERVICES

PC Member/Reviewer:
ARR (since 22); CCKS'22-23; EMNLP'22-23; ACL'23; NAACL'24
WWW'23; KDD'23; SDM'24
AAAI'23-24; NeurIPS'23; ICLR'24; ICML'24
CVPR'24