

# Kai Zhang

Email: zhang.13253@osu.edu

Personal Website: <https://drogozhang.github.io>

## 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

---

### OSU NLP Group, The Ohio State University

Ohio, USA

Research Assistant; Advisor: Yu Su

Aug 2022-Present

### Google DeepMind

Washington, USA

Student Researcher; Host: Yi Luan, Hexiang (Frank) Hu, and Ming-Wei Chang

Aug 2023-Mar 2024

### 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. MMMU: A Massive Multi-discipline Multimodal Understanding and Reasoning Benchmark for Expert AGI

Xiang Yue, Yuansheng Ni, Kai Zhang, Tianyu Zheng, Ruqi 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 Wenhui Chen

In CVPR, 2024.

### 2. 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.

### 3. 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.

### 4. ImagenHub: Standardizing the Evaluation of Conditional Image Generation Models

Max Ku, Tianle Li, Kai Zhang, Yujie Lu, Xingyu Fu, Wenwen Zhuang, and Wenhui Chen

In ICLR, 2024.

### 5. UMIE: Unified Multimodal Information Extraction with Instruction Tuning

# Lin Sun\*, Kai Zhang\*, Qingyuan Li\*, and Renze Lou

In AACL (Oral), 2024.

6. **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.
7. **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.
8. **MagicBrush: A Manually Annotated Dataset for Instruction-Guided Image Editing**  
Kai Zhang\*, Lingbo Mo\*, Wenhui Chen, Huan Sun, and Yu Su  
In NeurIPS Datasets and Benchmarks, 2023.
9. **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.
10. **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.
11. **Aligning Instruction Tasks Unlocks Large Language Models as Zero-Shot Relation Extractors**  
Kai Zhang, Bernal Jiménez Gutiérrez, and Yu Su  
In Findings of ACL, 2023.
12. **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.
13. **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.
14. **Unified and Incremental SimRank: Index-free Approximation with Scheduled Principle**  
Fanwei Zhu, Yuan Fang, Kai Zhang<sup>†</sup>, Kevin Chen-Chuan Chang, Hongtai Cao, Zhen Jiang, and Minghui Wu  
In IEEE TKDE, 2021.
15. **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.
16. **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.
17. **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.
18. **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.
19. **TOI-CNN: A Solution of Information Extraction on Chinese Insurance Policy**  
Lin Sun\*, Kai Zhang<sup>\*†</sup>, Fule Ji, and Zhenhua Yang  
In NAACL-HLT, 2019.

## PREPRINTS

---

1. **MagicLens: Self-Supervised Image Retrieval with Open-Ended Instructions**  
Kai Zhang, Yi Luan, Hexiang Hu, Kenton Lee, Siyuan Qiao, Wenhui Chen, Yu Su, and Ming-Wei Chang  
arXiv:2403.19651, 2024.
2. **TravelPlanner: A Benchmark for Real-World Planning with Language Agents**  
# Jian Xie\*, Kai Zhang\*, Jiangjie Chen, Tinghui Zhu, Renze Lou, Yuandong Tian, Yanghua Xiao, and Yu Su  
arXiv:2402.01622, 2024.
3. **Deductive Beam Search: Decoding Deducible Rationale for Chain-of-Thought Reasoning**  
# Tinghui Zhu\*, Kai Zhang\*, Jian Xie, and Yu Su  
arXiv:2401.17686, 2024.
4. **Multimodal Question Answering for Unified Information Extraction**  
# Yuxuan Sun\*, Kai Zhang\*, and Yu Su  
arXiv:2310.03017, 2023.
5. **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; COLM'24

CVPR'24