

# Kai Zhang

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

## EDUCATION

### The Ohio State University

Ph.D. in Computer Science and Engineering

• GPA: 4.0/4.0

Ohio, USA

Aug 2022-May 2027 (Expected)

### Zhejiang University City College

B.E. in Computer Science and Technology

• GPA: 3.99/4.0 (93.51/100) Rank: 1/118

Zhejiang, China

Sept 2016-Jun 2020

## RESEARCH EXPERIENCE

### Google DeepMind

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

Washington, USA

Aug 2023-Present

### OSU NLP Group, The Ohio State University

Research Assistant; Advisor: Yu Su

Ohio, USA

Aug 2022-Present

### STCA Semantics and Knowledge Team, Microsoft

Research Intern; Host: Chongyang Tao and Tao Shen

Beijing, China

Mar 2022-July 2022

### Minds, Machines, and Society Group, Dartmouth College

Research Intern; Advisor: Soroush Vosoughi

New Hampshire, USA

Jun 2020-Sept 2020

### THU NLP Group, Tsinghua University

Research Assistant; Advisor: Zhiyuan Liu

Beijing, China

Nov 2019-Mar 2021

### CCAI, Zhejiang University City College

Research Assistant; Advisors: Lin Sun and Fanwei Zhu

Zhejiang, China

Jan 2018-Nov 2019

## SELECTED PUBLICATIONS

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

### 1. Automatic Evaluation of Attribution by Large Language Models

Xiang Yue, Boshi Wang, Zirui Chen, Kai Zhang, Yu Su, and Huan Sun

In Findings of EMNLP, 2023.

### 2. 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.

### 3. 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.

### 4. 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.

### 5. Aligning Instruction Tasks Unlocks Large Language Models as Zero-Shot Relation Extractors

Kai Zhang, Bernal Jiménez Gutiérrez, Yu Su

In Findings of ACL, 2023.

### 6. 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.

7. **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.
8. **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.
9. **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.
10. **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.
11. **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.
12. **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.
13. **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

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1. **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 Wenhua Chen.  
arXiv:2311.16502, 2023.
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.  
arXiv:2312.02436, 2023.
3. **Multimodal Question Answering for Unified Information Extraction**  
# Yuxuan Sun\*, Kai Zhang\*, Yu Su.  
arXiv:2310.03017, 2023.
4. **ImagenHub: Standardizing the Evaluation of Conditional Image Generation Models**  
Max Ku, Tianle Li, Kai Zhang, Yujie Lu, Xingyu Fu, Wenwen Zhuang, and Wenhua Chen.  
arXiv:2310.01596, 2023.
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.  
arXiv:2305.15072, 2023.
6. **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  
arXiv:2305.13300, 2023.
7. **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

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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

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### **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

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

Jian Xie (ZUCC BS → FDU MS), 2019-Present, Language Agent

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

## SERVICES

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### **PC Member/Reviewer:**

ARR (since 22); CCKS'22-23; EMNLP'22-23; ACL'23

WWW'23; KDD'23; SDM'24

AAAI'23-24; NeurIPS'23; ICLR'24

CVPR'24