HAOZHE ZHAO

✉ mimazhe55360@gmail.com · ☎ (+86) 176-2766-9660 · % Google Scholar

🎓 EDUCATION

Peking University   2022.09 – 2025.06
   M.Sc. in Software Engineering;
   Supervisor: Prof. **Baobao Chang** in PKU-NLP Group

Tianjin University   2018.09 – 2022.06
   B.Eng. in Software Engineering;
   Ranking: $3^{rd}/168$

📇 PUBLICATIONS

Research Interests: Primary focuses on **Natural Language Processing** and **Vision-Language Learning**. I've published **8** paper in top-tier conferences and been **first/co-first** author on **4** of them (e.g., ICLR, NeurIPS).

Vision-Language Learning

1. **MMICL: Empowering Vision-language Model with Multi-Modal In-Context Learning Ability**

   [Paper 📄 124] [Code ★ 334]   *Haozhe Zhao, Zefan Cai, Shuzheng Si, ..., Baobao Chang*   ICLR 2024

2. **UltraEdit: Instruction-based Fine-Grained Image Editing at Scale**

   [Paper 📄 13] [Code ★ 178]   *Haozhe Zhao, Xiaojian Ma, Liang Chen, ..., Baobao Chang* NeurIPS 2024

3. **FastV: Plug-and-Play Inference Acceleration for Large Vision-Language Models**

   [Paper 📄 52] [Code ★ 279]   *Liang Chen, **Haozhe Zhao**, ..., Baobao Chang*   ECCV 2024, Oral

4. Looking Beyond Text: Reducing Language Bias in Large Vision-Language Models via Multimodal Dual-Attention and Soft-Image Guidance

   [Paper] [Code]   *Haozhe Zhao, ..., Minjia Zhang, Baobao Chang*   CVPR 2025, Under Review

5. Next Token Prediction Towards Multimodal Intelligence: A Comprehensive Survey

   [Paper] [Code]   *Liang Chen*, Zekun Wang*, Shuhuai Ren*, Lei Li*, **Haozhe Zhao***, ...*   Preprint

Natural Language Processing

6. Mitigating Language-Level Performance Disparity in mPLMs via Teacher Language Selection and Cross-lingual Self-Distillation

   [Paper] [Code]   *Haozhe Zhao, Zefan Cai, Shuzheng Si, ..., Baobao Chang.*   NAACL 2024

7. Improving the Robustness of Distantly-Supervised Named Entity Recognition via Uncertainty-Aware Teacher Learning and Student-Student Collaborative Learning.

   [Paper] [Code]   *Shuzheng Si*, Helan Hu*, **Haozhe Zhao***, ..., Baobao Chang*   ACL 2024, Findings

8. GATEAU: Selecting Influential Sample for Long Context Alignment.

   [Paper]   *Shuzheng Si*, **Haozhe Zhao***, ... , Baobao Change, Maosong Sun*   ACL 2025, UnderReview

9. Coarse-to-Fine Dual Encoders are Better Frame Identification Learners.

   [Paper] [Code]   *Kaikai An, Ce Zheng, Bofei Gao, **Haozhe Zhao**,...*   EMNLP 2023, Findings

Others

10. Removing Camouflage and Revealing Collusion: Leveraging Gang-crime Pattern in Fraudster Detection.

   [Paper]   *Lewen Wang, **Haozhe Zhao**, Cunguang Feng, ..., Jiang Bian*   KDD 2023

11. Utilizing Partially Observed Information for Money Laundering Detection.

   [Paper]   *Haozhe Zhao, Lewen Wang, Xiao Yang, Weiqing Liu, ..., Jiang Bian*   TKDE UnderReview

👥 Research Experiences

PKUNLP Lab, Peking University   - Supervisor: Prof. Baobao Chang   2022.09 – Present

MMICL: Empowering Vision-language Model with Multi-Modal In-Context Learning Ability [1]:

- Introduce **MMICL** to empower the VLM with multimodal ICL to **deal with multimodal inputs efficiently**.
- Propose a novel **context scheme** guiding the data construction to augment the ICL ability of the VLM.
- Achieve SOTA performance in Few-shot and Zero-shot settings across various VL tasks and benchmarks.

UltraEdit: Instruction-based Fine-Grained Image Editing at Scale [2]

- Address drawbacks in existing image editing datasets through a systematic approach for data creation.
- Deliver an in-depth analysis revealing critical insights on the image editing process.

FastV: An Image is Worth 1/2 Tokens After Layer 2 [3]

- Identify the significant inefficiency in visual token attention computation in deep layers of existing LVLMs.
- Boost computational efficiency by pruning visual tokens in deeper layers and preserving them in early ones.

ALSACE: Mitigating Language-Level Performance Disparity in mPLMs [6]

- Propose Teacher Language Selection to choose suitable teacher languages.
- Use selected teacher languages for cross-lingual self-distillation to mitigate performance gap.

CENSOR: DSNER with UA Teacher Learning and Student-student Collaborative Learning [7]

- Introduce uncertainty to locate incorrect pseudo-labels in distantly-supervised named entity recognition

University of Illinois Urbana-Champaign   - Supervisor: Prof. Minjia Zhang   2024.04 – Present

Reducing Language bias in LVLMs via Multimodal Dual-Attention and Soft-Image Guidance [4]

- A parallel dual-attention mechanism aims to enhances the integration of visual inputs across the LVLMs.
- A decoding strategy to mitigate LVLMs' over-reliance on text inputs with a learnable soft image prompt.

THUNLP Lab, Tsinghua University   - Supervisor: Prof. Maosong Sun   2024.02 – 2024.05

GATEAU: Selecting Influential Sample for Long Context Alignment [8]

- Address long-context alignment by modeling long-range dependencies to instructions and lengthy inputs.
- Identify the influential samples enriched with long-range dependency relations via data filtering to enhance the long-context abilities of LLMs.

Microsoft Research Asia - Supervisor: Lewen Wang and Dr. Jiang Bian   2022.08 – 2023.07

ACD: Removing Camouflage and Revealing Collusion [10]

- Detect and Remove camouflage of fraudster gangs in community-level via Adversarial STGNN.

POIE: Utilizing Partially Observed Information for Money Laundering Detection [11]

- Complements missing info of accounts to improve money laundering detection by reinforcement learning.

🏆 Honors and Awards

Merit Student in Peking University (10%)	2023.09
Tianjin University Alumni Scholarship (1%)	2021.09
First Class Scholarship in Tianjin University (5%)	2020.09
Merit Student in Tianjin University (10%)	2019.09

⚙ ACADEMIA SERVICES & TEACHING

Reviewer: ICLR 2025, NeurIPS 2024, ICML 2024, ACL Rolling Review
Teaching Assistant: Natural Language Processing (Graduate-Level Course), PKU, Spring 2024