Zhao Haiteng

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Research Interest

As a fourth-year Ph.D. student in machine learning, my interests span a diverse array of fields, encompassing but not confined to **Natural Language Processing**, **Knowledge Reasoning**, **Agent**, **Graph Machine learning**, and **AI for Science**.

Education

Peking University, Beijing, China   2020 – Present
Ph.D. student in Intelligent Science and Technology, Advisor: Zhihong Deng, expected July 2025

Peking University, Beijing, China   2016 – 2020
B.S. in Psychology, Advisor: Hang Zhang

Experience

Peking University   2020.9 – Present
Ph.D. Student   Advisor: Prof. Zhihong Deng

Nanyang Technological University   2021.6 – Present
Collaboration   Advisor: Prof. Luu Anh Tuan
Work on certified robustness for non-Lp norm perturbations via randomized smoothing.
Explore the robustness of language models in reasoning, especially against perturbation with knowledge.

Microsoft Research Asia   2022.1 – 2022.10
Research Intern   Mentor: Shuming Ma
Explore multilingual continue learning for language model pre-training, enabling pre-training on dynamically increasing corpora.
Design novel graph transformers that can benefit from the model depth.

The University of Hong Kong   2022.12 – 2023.6
Research Intern   Advisor: Lingpeng Kong and Qi Liu
Explore instruction-based zero-shot learning for predicting molecule properties.
Examine the feasibility of replacing MSA augmentation in protein models with a general retrieval method.

ByteDance Data-AML-US   2023.8 – 2024.2
Research Intern   Mentor: JingJing Xu
Enable language agents to iteratively acquire and improve skills through interactions with their environment.
Explore frameworks for language models to devise tools for solving mathematical and reasoning challenges.

Publications

Empowering Large Language Model Agents through Action Learning
Haiteng Zhao, Chang Ma, Guoyin Wang, Jing Su, Lingpeng Kong, Jingjing Xu, Zhi-Hong Deng, Hongxia Yang.
arXiv preprint

Exploring the Reasoning Abilities of Multimodal Large Language Models (MLLMs): A Comprehensive Survey on Emerging Trends in Multimodal Reasoning
Yiqi Wang, Wentao Chen, Xiaotian Han, Xudong Lin, **Haiteng Zhao**, Yongfei Liu, Bohan Zhai, Jianbo Yuan, Quanzeng You, Hongxia Yang.

arXiv preprint

GIMLET: A Unified Graph-Text Model for Instruction-Based Molecule Zero-Shot Learning
Haiteng Zhao, Shengchao Liu, Chang Ma, Hannan Xu, Jie Fu, Zhi-Hong Deng, Lingpeng Kong, Qi Liu.
NeurIPS 2023

Retrieved Sequence Augmentation for Protein Representation Learning
Chang Ma, **Haiteng Zhao**, Lin Zheng, Jiayi Xin, Qintong Li, Lijun Wu, Zhihong Deng, Yang Lu, Qi Liu,
Lingpeng Kong.
arXiv preprint

Are More Layers Beneficial to Graph Transformers?
Haiteng Zhao, Shuming Ma, Dongdong Zhang, Zhi-Hong Deng, Furu Wei.
ICLR 2023

Certified Robustness Against Natural Language Attacks by Causal Intervention
Haiteng Zhao‡, Chang Ma‡, Xinshuai Dong‡, Anh Tuan Luu, Zhi-Hong Deng, Hanwang Zhang.
ICML 2022

Domain Adaptation via Mutual Information Maximization
Haiteng Zhao, Chang Ma, Qinyu Chen, Zhihong Deng.
IJCAI 2022 (Long presentation)

SKILLS

- Programming Languages: Python(Pytorch,Tensorflow) > C++ == C
- Platform: Linux
- Development: Web
- Others: LaTex, MarkDown

HONORS AND AWARDS

Award of Scientific Research	Dec. 2018
Award of Merit Student	Dec. 2022
Guorui Scholarship	Dec. 2022