

Qianyu He

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Research Interests

Qianyu He (何千羽) is currently a fourth-year PhD candidate at Fudan University in the School of Computer Science. Her research interests primarily focus on enhancing the fundamental **reasoning and instruction following capabilities** of large language models (LLMs):

- **Reasoning Model:** Advancing research on incentivizing and understanding LLMs’ complex reasoning abilities.
- **Instruction Following:** Developing advanced methods for LLMs to follow complex instructions, ensuring more reliable human-LLMs interactions, and empowering autonomous completion of complex real-world tasks.

Education

Fudan University (Shanghai) <i>Ph.D. in School of Computer Science</i>	2021 – 2026 (estimated)
Fudan University (Shanghai) <i>B.S. in School of Computer Science</i>	2017 – 2021

Experience

ByteDance Seed-LLM-Horizon • Role: Research Intern • Advisor: Dr. Mingxuan Wang • Topics: Reasoning Model, Long Chain-of-thought [1][2][11] • Projects: Seed1.5-Thinking (Github Star: 700+), Doubao-1.5-pro-AS1-Preview	2024.11 – Present
StepFun Foundation Model Group • Role: Research Intern • Advisor: Dr. Jie Yan • Topics: LLMs Reasoning, Generative Reward Model	2024.05 – 2024.10
Knowledge Works Lab at Fudan University • Role: Student Research Leader • Advisor: Prof. Yanghua Xiao • Topics: Instruction Following [4][5][6][7] , LLMs Reasoning [3][15][16] , Creative Generation [8][9][10]	2021.03 – Present

Selected Awards

First-Class Academic Scholarship for Doctoral Students	2024
Intel Fellowship (5 Ph.D. candidates in Fudan University)	2023
Venustech Scholarship	2022
Outstanding Graduate in Shanghai (Top 5%)	2021
Chinese National Scholarship (Top 1%)	2020

Selected Publications

(* indicates equal contribution, ♣ indicates Student She Mentored)	
[1] ENIGMATA: Scaling Logical Reasoning in Large Language Models with Synthetic Verifiable Puzzles	Under Review
Jiangjie Chen*, <u>Qianyu He</u> *, Siyu Yuan*, Aili Chen*, Zhicheng Cai, Weinan Dai, Hongli Yu, Qiyang Yu, Xuefeng Li, Jiaze Chen, Hao Zhou, Mingxuan Wang. The project contributes to the Logical Reasoning Capabilities for Seed1.5-Thinking	
[2] Seed1.5-Thinking: Advancing Superb Reasoning Models with Reinforcement Learning	Technical Report 2025
<u>Qianyu He</u> as a contributor to Logical Reasoning Capabilities for Seed1.5-Thinking	

- [3] [Think Thrice Before You Act: Progressive Thought Refinement in Large Language Models](#) ICLR 2025
Chengyu Du, Jinyi Han, Yizhou Ying, Aili Chen, [Qianyu He](#), Haokun Zhao, Sirui Xia, Haoran Guo, Jiaqing Liang, Zulong Chen, Liangyue Li, Yanghua Xiao
- [4] [Step-by-Step Mastery: Enhancing Soft Constraint Following Ability of Large Language Models](#) ACL 2025 Findings
Qingyu Ren[♣], Jie Zeng[♣], [Qianyu He](#), Jiaqing Liang, Yanghua Xiao, Weikang Zhou, Zeye Sun, Fei Yu
- [5] [Order Matters: Investigate the Position Bias in Multi-constraint Instruction Following](#) ACL 2025 Findings
Jie Zeng[♣], [Qianyu He](#), Qingyu Ren[♣], Jiaqing Liang, Yanghua Xiao, Weikang Zhou, Zeye Sun, Fei Yu
- [6] [From Complex to Simple: Enhancing Multi-Constraint Complex Instruction Following Ability of Large Language Models](#) EMNLP 2024 Findings
[Qianyu He](#)^{*}, Jie Zeng[♣], Qianxi He[♣], Jiaqing Liang, Yanghua Xiao
- [7] [Can Large Language Models Understand Real-World Complex Instructions?](#) AAAI 2024
[Qianyu He](#), Jie Zeng[♣], Wenhao Huang, Lina Chen, Jin Xiao[♣], Qianxi He[♣], Xunzhe Zhou, Jiaqing Liang, Yanghua Xiao
Adopted by [Hunyuan-Thinker-1-Preview for Instruction Following Capabilities evaluation](#)
- [8] [HAUSER: Towards Holistic and Automatic Evaluation of Simile Generation](#) ACL 2023 **Oral**
[Qianyu He](#), Yikai Zhang, Jiaqing Liang, Yuncheng Huang[♣], Yanghua Xiao, Yunwen Chen
- [9] [MAPS-KB: A Million-scale Probabilistic Simile Knowledge Base](#) AAAI 2023
[Qianyu He](#), Xintao Wang, Jiaqing Liang, Yanghua Xiao
- [10] [Can Pre-trained Language Models Interpret Similes as Smart as Human?](#) ACL 2022
[Qianyu He](#)^{*}, Sijie Cheng^{*}, Zhixu Li, Rui Xie, Yanghua Xiao

Other Publications

(* indicates equal contribution, ♣ indicates Student She Mentored)

- [11] [KORGym: A Dynamic Game Platform for LLM Reasoning Evaluation](#) Under Review
[Qianyu He](#) as a contributor to [Puzzle Reasoning Data Curation](#)
- [12] [Order Doesn't Matter, But Reasoning Does: Training LLMs with Order-Centric Augmentation](#) Preprint 2025
Qianxi He[♣], [Qianyu He](#), Jiaqing Liang, Yanghua Xiao, Weikang Zhou, Zeye Sun, Fei Yu
- [13] [QUILL: Quotation Generation Enhancement of Large Language Models](#) Preprint 2025
Jin Xiao[♣], Bowei Zhang, [Qianyu He](#), Jiaqing Liang, Feng Wei, Jinglei Chen, Zujie Liang, Deqing Yang, Yanghua Xiao
- [14] [Laying the Foundation First? Investigating the Generalization from Atomic Skills to Complex Reasoning Tasks](#) Preprint 2024
Yuncheng Huang[♣], [Qianyu He](#), Yipei Xu, Jiaqing Liang, Yanghua Xiao
- [15] [Enhancing Quantitative Reasoning Skills of Large Language Models through Dimension Perception](#) ICDE 2024
Yuncheng Huang[♣], [Qianyu He](#), Jiaqing Liang, Sihang Jiang, Yanghua Xiao, Yunwen Chen
- [16] [Reason from Fallacy: Enhancing Large Language Models' Logical Reasoning through Logical Fallacy Understanding](#) NAACL 2024 Findings
Yanda Li, Dixuan Wang, Jiaqing Liang, Deqing Yang, Guochao Jiang, [Qianyu He](#), Yanghua Xiao

- [17] [Small Model Can Self-correct](#) AAAI 2024
Jinyi Han, Jiaqing Liang, Jie Shi, [Qianyu He](#), Yanghua Xiao
- [18] [Light Up the Shadows: Enhance Long-Tail Entity Grounding with Concept-Guided Vision-Language Models](#) ACL 2024 Findings
Yikai Zhang, [Qianyu He](#), Xintao Wang, Siyu Yuan, Jiaqing Liang, Yanghua Xiao
- [19] [Is There a One-Model-Fits-All Approach to Information Extraction? Revisiting Task Definition Biases](#) ACL 2024 Findings
Wenhao Huang, [Qianyu He](#), Zhixu Li, Jiaqing Liang, Yanghua Xiao
- [20] [A Context-Enhanced Generate-then-Evaluate Framework for Chinese Abbreviation Prediction](#) CIKM 2023
Hanwen Tong, Chenhao Xie, Jiaqing Liang, [Qianyu He](#), Zhiang Yue, Jingping Liu, Yanghua Xiao, Wenguang Wang
- [21] [BBT-Fin: Comprehensive Construction of Chinese Financial Domain Pre-trained Language Model, Corpus and Benchmark](#) Preprint 2023
Dakuan Lu, Jiaqing Liang, Yipei Xu, [Qianyu He](#), Yipeng Geng, Mengkun Han, Yingsi Xin, Hengkui Wu, Yanghua Xiao
- [22] [Language Models as Knowledge Embeddings](#) IJCAI 2022
Xintao Wang, [Qianyu He](#), Jiaqing Liang, Yanghua Xiao