

Email: wliucn@cse.ust.hkWebsite: vpeter.v.github.io

Education

2024–on **PhD in Computer Science**, The Hong Kong University of Science and Technology (HKUST)

2021–2024 **MSc in Computer Science**, ShanghaiTech University, China.

2017–2021 **BSc in Computer Science**, South China Agricultural University, China (GPA: 4.23/5.0, Top2%)

Research Interests

Scalable LLMs: Exploring scalable methods for training, inference in large language models

Complex Reasoning: Improving the reasoning ability of LLMs for complex tasks e.g. Math, Code, and Agents

Multi-Modal LLMs: Investigating the integration of vision, language, and other modalities in LLMs

Deep Latent-variable Models: Deep Latent-variable models

Preprint (* denotes equal contribution)

2024 Diving into Self-Evolving Training for Multimodal Reasoning

Wei Liu*, Junlong Li*, Xiwen Zhang, Fan Zhou, Yu Cheng, Junxian He,
Submitted to ICLR2025 | Project: [M-STAR](#)


2024 Is Your Model Really A Good Math Reasoner? Evaluating Mathematical Reasoning with Checklist

Zihao Zhou*, Shudong Liu*, Maizhen Ning, **Wei Liu**, Jindong Wang, Derek F. Wong, Xiaowei Huang,
Qiufeng Wang, Kaizhu Huang
Submitted to ICLR2025 | Project: [MathCheck](#)

Publications (* denotes equal contribution)

2024 What Makes Good Data for Alignment? A Comprehensive Study of Automatic Data Selection in Instruction Tuning

(Leveraged by several LLMs series including **LLaMA-3** series)


Wei Liu*, Weihao Zeng*, Keqing He, Yong Jiang, Junxian He
In Proceedings of ICLR, 2024. |  GitHub: [hkust-nlp/deita](https://github.com/hkust-nlp/deita)

2024 MathAttack: Attacking Large Language Models Towards Math Solving Ability

Zihao Zhou, Qiufeng Wang, Mingyu Jin, Jie Yao, Jianan Ye, **Wei Liu**, Wei Wang, Xiaowei Huang, Kaizhu Huang



In Proceedings of AAAI, 2024. |  GitHub: [zhousihao501/MathAttack](https://github.com/zhousihao501/MathAttack)

2024 SeqGPT: An Out-of-the-box Large Language Model for Open Domain Sequence Understanding

Tianyu Yu*, Chengyue Jiang*, Chao Lou*, Shen Huang*, Xiaobin Wang, **Wei Liu**, Jiong Cai, Yangning Li, Yinghui Li, Kewei Tu, Hai-Tao Zheng, Ningyu Zhang, Pengjun Xie, Fei Huang, Yong Jiang
In Proceedings of AAAI, 2024. |  GitHub: [Alibaba-NLP/SeqGPT](https://github.com/Alibaba-NLP/SeqGPT)

2023 Simple Hardware-Efficient PCFGs with Independent Left and Right Productions

Wei Liu, Songlin Yang, Yoon Kim, Kewei Tu
In Findings of EMNLP, 2023.

- 2023 Joint Entity and Relation Extraction with Span Pruning and Hypergraph Neural Networks
Zhaohui Yan, Songlin Yang, **Wei Liu**, Kewei Tu
In Proceedings of EMNLP, 2023.
- 2023 Structured Mean-Field Variational Inference for Higher-Order Span-Based Semantic Role Labeling
Wei Liu, Songlin Yang, Kewei Tu.
In Findings of ACL, 2023. |  GitHub: [VPeterV/Structured-MFVI](https://github.com/VPeterV/Structured-MFVI)
- 2022 Dynamic Programming in Rank Space: Scaling Structured Inference with Low-Rank HMMs and PCFGs
(Top 3 Score in ARR Jan 2022)
Songlin Yang*, **Wei Liu***, Kewei Tu.
In Proceedings of NAACL, 2022. |  GitHub: [VPeterV/RankSpace-Models](https://github.com/VPeterV/RankSpace-Models)
- 2021 Knowledge-Based Chat Detection With False Mention Discrimination
Wei Liu, Peijie Huang, Dongzhu Liang, Zihao Zhou
In Proceedings of ICASSP, 2021.
- 2019 A Knowledge-gated Mechanism for Utterance Domain Classification.
Zefeng Du, Peijie Huang, Yuhong He, **Wei Liu** and Jiankai Zhu
In Proceedings of NLPCC, 2019.

Internships

- 2023–2024 **Shanghai AI Laboratory**, advised by Prof. [Yu Cheng](#)
- 2023–2024 **Research Assitant**, [HKUST NLP](#)
- 2022–on **Research Intern**, Alibaba DAMO Academy, China

Service

Reviewer: ARR, ACL, NAACL, EMNLP, COLM, ICLR, NeurIPS

Major Awards and Honors

- National Scholarship in China** ShanghaiTech University (2023)
- The First-class Scholarship** ShanghaiTech University (2021,2022)
- Outstanding Graduate** South China Agricultural University (2021)
- The First-class Scholarship** South China Agricultural University (2021)
- The WENS Scholarship** South China Agricultural University (2018,2019)
- The Second-class Scholarship** South China Agricultural University (2018,2019,2020)

Extra-Curricular

- 2023 **Teaching Assitant** CS241A, Natural Language Processing
- 2019–2020 **Vice Chairman** Science and Technology & Competition Service Center

Certificate

CET-4, CET-6, TOEFL