Xiang LIU

Homepage: https://dominic789654.github.io/
Google Scholar: VtK5lwUAAAAJ
Email: xliu886@connect.hkust-gz.edu.cn
Mobile: +86-15617865777

EDUCATION

The Hong Kong University of Science and Technology (Guangzhou) — Guangzhou, CHINA
PhD in DSA Thrust, supervised by **Professor Xiaowen Chu** — *Sep 2023 - Aug 2027*

The University of Hong Kong — Hong Kong SAR, CHINA
Master of Science(MSc) in Computer Science — *Sep 2022 - Aug 2023*

George Mason University — VA, USA
Bachelor of Science in Computer Science; GPA: 3.71/4.0 — *Aug 2018 - Aug 2022*
Honors/Awards: *Dean's List (2018-2020)*
Courses: *Natural Language Processing, Visual Computing, Data Structures, Database Concepts*

SELECTED RESEARCH

LISA: Layerwise Importance Sampling for Memory-Efficient Large Language Model Fine-Tuning
NeurIPS 2024

- Rui Pan*,**Xiang Liu***, Shizhe Diao, Renjie Pi, Jipeng Zhang, Chi Han, Tong Zhang
- Parameter Efficient Fine-tuning, Layer-wise Optimization, GPU Memory Optimization

Should We Really Edit Language Models? On the Evaluation of Edited Language Models
NeurIPS 2024

- Qi Li*, **Xiang Liu***, Zhenheng Tang, Peijie Dong, Zeyu Li, Xinglin Pan, Xiaowen Chu
- Model Editing, Benchmark, Model Robustness

LongGenBench: Long-context Generation Benchmark
EMNLP Findings 2024

- **Xiang Liu**, Peijie Dong, Xuming Hu, Xiaowen Chu
- Long-context Generation, Long-context LLMs, Logical Coherence

EXPERIENCE

HKUST Statistics and Machine Learning Research Group — HK,CHINA
Research Intern **Supervisor: Prof. Tong Zhang** — *Dec 2022 - Aug 2023*

- Proposed **LISA: Layerwise Importance Sampling for Memory-Efficient Large Language Model Fine-Tuning**, a novel algorithm for efficient fine-tuning of LLMs, accepted at *NeurIPS 2024*.
- Contributed to the LMFlow, a framework that allows fine-tuning and deploying personalized LLMs with minimal cost and effort. And focused on fine-tuning Large Language Models, including LLaMa, Bloom and Vicuna.
- Conducted research on the Chain-of-thought (COT) method to enhance Large Language Models' logical ability.

Baidu Research Cognitive Computing Lab — Beijing,CHINA
Research Intern — *Dec 2021 - June 2022*

- Worked on dependency parsing using the Open Information Annotation (OIA) method to convert sentences into directed acyclic graphs (DAGs).
- Enhanced the performance of the OIA method for Chinese sentences by integrating node type and edge type specific to Chinese OIA, achieving parity with English OIA.

COMPETITIONS

Kaggle — Feedback Prize - Predicting Effective Arguments Competition — Jun 2022 - Aug 2022
Team Leader — Silver Medal (Top 2%)

- Developed baseline code, and designed various data preprocessing strategies, and model structures.
- Implemented token classification instead of sequence classification, boosting rank and saving time on training and inference. Acquired proficiency in using Transformers training API.

PROFESSIONAL SKILLS

- **Languages**:   English, Mandarin
- **Computing Skills**:   PyTorch, Git, Linux