Juzheng **Zhang**

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Education

University of Maryland, College Park — *College Park, MD*

Ph.D. Student in Computer Science — *Aug. 2024 - Present*

- Advised by Prof. Tom Goldstein; GPA: 4.0/4.0.
- My research interests center on trustworthy machine learning, particularly in the context of large-scale models.

Shanghai Jiao Tong University — *Shanghai, China*

Bachelor of Engineering in Electrical Engineering — *Sep. 2019 - Jun. 2023*

- Graduated with Honors (Top 1%); Overall GPA: 4.0/4.3; Rank: 1/152. Member of the Zhiyuan Honors Program.

Publications

LoRI: Reducing Cross-Task Interference in Multi-Task Low-Rank Adaptation — *arXiv*

Juzheng Zhang, Jiacheng You, Ashwinee Panda, Tom Goldstein

LoRA Without Forgetting: Freezing and Sparse Masking for Low-Rank Adaptation — *ICLR 2025 SLLM Workshop*

Juzheng Zhang, Jiacheng You, Ashwinee Panda, Tom Goldstein

UniMoT: Unified Molecule-Text Language Model with Discrete Token Representation — *arXiv*

Juzheng Zhang, Yatao Bian, Yongqiang Chen, Quanming Yao

Heuristic Learning with Graph Neural Networks: A Unified Framework for Link Prediction — *KDD 2024*

Juzheng Zhang, Lanning Wei, Zhen Xu, Quanming Yao

Customized Subgraph Selection and Encoding for Drug-drug Interaction Prediction — *NeurIPS 2024*

Haotong Du, Quanming Yao, **Juzheng Zhang**, Yang Liu, Zhen Wang

HIGHT: Hierarchical Graph Tokenization for Graph-Language Alignment — *ICML 2024 FM-Wild Workshop*

Yongqiang Chen, Quanming Yao, **Juzheng Zhang**, James Cheng, Yatao Bian

Experience

University of Maryland, College Park — *College Park, MD*

Graduate Assistant — *Aug 2024 – Present*

- Developed **LoRI**, a parameter-efficient fine-tuning (PEFT) method using frozen projections and sparse masks to reduce cross-task interference in multi-task adaptation; used up to 95% fewer parameters than LoRA with better performance. (arXiv)
- Proposed **LoRAF** to mitigate catastrophic forgetting in sequential LoRA tuning using frozen projections and non-overlapping sparse masks, significantly improving knowledge retention. (ICLR 2025 SLLM Workshop)

Tsinghua University — *Beijing, China*

Research Assistant — *Oct 2023 – May 2024*

- Developed **UniMoT**, a unified molecule-text LLM using a VQ-driven tokenizer with Q-Former for discrete molecule tokens, enabling multi-modal molecule-text generation and comprehension tasks. (arXiv)
- Co-developed **HIGHT**, a hierarchical graph tokenization strategy (node, motif, graph levels) improving graph-language alignment and reducing hallucination by 40% in molecule-language tasks. (ICML 2024 FM-Wild Workshop)
- Contributed to **CSSE-DDI**, applying Neural Architecture Search (NAS) principles to automatically discover optimal subgraph selection and encoding functions for improved Drug-Drug Interaction (DDI) prediction. (NeurIPS 2024)

Baidu Research *Beijing, China*

Research Intern *Mar 2023 – Oct 2023*

- Developed **HL-GNN**, a unified and efficient GNN framework for link prediction that generalizes graph heuristics via matrix formulation; achieved state-of-the-art results on link prediction benchmarks. (KDD 2024)

Honors & Awards

2024	Dean's Fellowship	*College Park, MD*
2023	Outstanding Graduate of Shanghai Jiao Tong University	*Shanghai, China*
2021	Shanghai Government Scholarship	*Shanghai, China*
2021	Merit Student Award	*Shanghai, China*
2021	Academic Excellence Scholarship	*Shanghai, China*
2021	Meritorious Winner, International Mathematical Contest in Modeling (MCM)	*USA*

Skills

Programming	Python, Pytorch, C/C++, Tensorflow, Verilog
Tools	Git, Docker, Markdown, LaTeX, HTML, CSS
Languages	English, Mandarin