Yuxin Tang

Department of Computer Science

Rice University

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SKILLS

Programming

- Python, C++, CUDA.
- Expertise with major tools for machine learning and data analytics.

EDUCATION

Ph.D.	Computer Science, Rice University, 2018-2024
	Advisor: Chris Jermaine
B.S.	Computer Science, Shanghai Jiao Tong University, 2014-2018

RESEARCH AREAS

Distributed ML, Data Management, Data Analytics

INTERNSHIP

2024 Summer   **Bosch Center for Artificial Intelligence (BCAI), Sunnyvale, CA**

- Work on an algorithmic framework for automatic prompt optimization and prompt tuning with efficient prompt compression algorithm.
- Deploy prompt optimization framework with LLM to help with Bosch's internal document queries.

2023 Summer   **Visa Research, Palo Alto, CA**

- Design algorithms for subgraph pattern discovery within graphs composed of trillion-sized transactions.
- Implement biclique computation framework designed to efficiently handle bipartite graphs that are several orders of magnitude larger.

2022 Summer   **ByteDance Inc, Mountain View, CA**

- Work on self-supervised learning (SSL) on graphs and increase the accuracy of multi-view graph contrastive learning model (MVGRL) on large graph datasets (ogbn-*) by 10%.
- Work on the scalability issues of graph diffusion by approximating personalized PageRank. Reduce the end-to-end training time by more than 60%.

PUBLICATION

2024   **FedLib: Library-Based Adaptation for Continuous, Federated Fine-Tuning.**
Yuxin Tang*, Ed Hu*, Chris Jermaine.
submitted to NeurIPS'24

2024	**TURNIP: A "Nondeterministic" GPU Runtime with CPU RAM Offload.** Zhimin Ding, Jiawen Yao, Brianna Barrow, Tania Lorido Botran, Christopher Jermaine, Yuxin Tang, Jiehui Li, Xinyu Yao, Sleem Mahmoud Abdelghafar, Daniel Bourgeois. *submitted to NeurIPS'24*
2024	**Monarch: Distributed Butterfly Counting for Large-scale Bipartite Graph.** Yuxin Tang, Mangesh Bendre, Mahashweta Das. *submitted to IEEE Big Data'24*
2023	**Soft Prompt Recovers Compressed LLMs, Transferably.** Zhaozhuo Xu*, Zirui Liu*, Beidi Chen, Shaochen Zhong, Yuxin Tang, Jue Wang, Kaixiong Zhou, Xia Hu, Anshumali Shrivastava. *ICML'24*
2023	**Federated Learning Over Images: Vertical Decompositions and Pre-Trained Backbones Are Difficult to Beat.** Yuxin Tang*, Ed Hu*, Anastasios Kyrillidis, Chris Jermaine. *ICCV'23*
2023	**Auto-Differentiation of Relational Computations for Very Large Scale Machine Learning.** Yuxin Tang, Zhimin Ding, Dimitrije Jankov, Binhang Yuan, Daniel Bourgeois, Chris Jermaine. *ICML'23*
2022	**Distributed learning of fully connected neural networks using independent subnet training.** Binhang Yuan, Cameron R. Wolfe, Chen Dun, Yuxin Tang, Anastasios Kyrillidis, Chris Jermaine. *VLDB'22*
2021	**Tensor Relational Algebra for Machine Learning System Design.** Binhang Yuan, Dimitrije Jankov, Jia Zou, Yuxin Tang, Daniel Bourgeois, and Chris Jermaine. *VLDB'21*
2020	**Programmable In-Network Security for Context-aware BYOD Policies.** Qiao Kang, Lei Xue, Adam Morrison, Yuxin Tang, Ang Chen, Xiapu Luo. *USENIX Security'20*
2018	**A Programmable, Hardware-Assisted Network Protocol Fuzzer.** Yuxin Tang, Ang Chen. *OSDI'18 (Poster)*
2017	**Exploring Simulation of Software-Defined Underwater Wireless Networks.** Li Wei, Yuxin Tang, Yuching Cao, Zhaohui Wang, Mario Gerla. *MobiCom'17 Workshop on Underwater Networks*

SERVICE

Conference Reviewer:
ICLR 2021–2024, ICML 2020–2024, NeurIPS 2020–2024, AISTATS 2022–2023
Session Chair:
VLDB 2023