## Yuxin Tang

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Houston. Texas

#### **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.

## 2021 Summer Jane Street, New York City, NY

- Design transformer based model to optimize open-to-open portfolio trading returns, resulting in high returns and an elevated Sharpe ratio.
- Integrated constraints into the loss function to adapt the model for varying market conditions.

#### **PUBLICATION**

# 2025 EinDecomp: Decomposition of Declaratively-Specified Machine Learning and Numerical Computations for Parallel Execution.

Daniel Bourgeois, Zhimin Ding, Dimitrije Jankov, Jiehui Li, Mahmoud Sleem, Yuxin Tang, Jiawen Yao, Xinyu Yao, Chris Jermaine. *submitted to VLDB'25* 

2025	FedLib: Library-Based Adaptation for Continuous, Federated Fine-Tuning.  Yuxin Tang*, Ed Hu*, Chris Jermaine.  submitted to ICLR'25
2025	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 ICLR'25
2024	Monarch: Distributed Butterfly Counting for Large-scale Bipartite Graph.  Yuxin Tang, Mangesh Bendre, Mahashweta Das.  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	<b>Tensor Relational Algebra for Machine Learning System Design.</b> Binhang Yuan, Dimitrije Jankov, Jia Zou, <u>Yuxin Tang</u> , 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

## **REFERENCES**

**Professor** Chris Jermaine, Department of Computer Science, Rice University

Professor Xia "Ben" Hu, Department of Computer Science, Rice University

Professor Anastasios Kyrillidis, Department of Computer Science, Rice University

**Professor** Arlei Silva, Department of Computer Science, Rice University