

# Yuxin Tang

7 W 34th St., New York, NY 10001

Email: yuxintang1995@gmail.com

Phone: +1 720 770 0529

## SKILLS

### Programming

Python (PyTorch), C++ (CUDA), Spark

## EDUCATION

Ph.D. Computer Science, Rice University, 2018-2024

Advisor: Chris Jermaine

Exchange Statistics, University of California, Los Angeles, 2016-2018

B.S. Computer Science, Shanghai Jiao Tong University, 2014-2018

## RESEARCH AREAS

Distributed Machine Learning, Large Language Model, Reinforcement Learning

## WORK EXPERIENCE

**Amazon AGI Lab**, *Applied Scientist*, New York, NY

2025.01–Present

- Work on large-scale compute-optimal MoE model scaling and design hardware-aware performance modeling.
- Lead data preprocessing and pretraining (annealing) efforts for multilingual instructed LLM, including multi-locale data generation, filtering, reweighting, deduplication and pre-tokenization.

**Bosch Center for Artificial Intelligence (BCAI)**, *Research Intern*, Sunnyvale, CA 2024.05–2024.08

- 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.

**Visa Research**, *Research Intern*, Palo Alto, CA

2023.05–2023.08

- 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.

## PUBLICATION

2026 **Upper-Case-Lower-Case Einstein Notation for Large-Scale Sparse Tensor Computation.**

Yuxin Tang, Zhiyuan Xin, Zhimin Ding, Xinyu Yao, Daniel Bourgeois, Tirthak Patel, Chris Jermaine.

*VLDB’26*

- 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.  
*VLDB'25*
- 2024 **Relational Computation for Very Large-Scale Machine Learning.**  
Yuxin Tang  
*Ph.D. Thesis*
- 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 **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 2021–2025, ICML 2020–2025, NeurIPS 2021–2025*

### **Session Chair:**

*VLDB 2023, MLSys 2025*

### **Program Committee:**

*CGO 2023, UDM-AAAI 2023, PLDI 2023*

### **Data to Knowledge (D2K) Fellow:**

*Fall 2022, Fall 2023, Spring 2024*

## REFERENCES

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

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

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

**Professor** Beidi Chen, Department of Electrical and Computer Engineering, Carnegie Mellon University (CMU)

**Professor** Binhang Yuan, Department of Computer Science & Engineering, Hong Kong University of Science and Technology (HKUST)