JIAQI ZHANG

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EDUCATION

Brown University, United States Ph.D., Computer Science

Southeast University, China B.S., Software Engineering Sep. 2021 - June. 2026 (anticipated)

Sep. 2015 - Jun. 2020 GPA: **3.56**/4.00

RESEARCH INTEREST

Bioinformatics: single-cell analysis, multi-modal integration, model interpretation, gene network **Machine Learning:** multi-modal learning, manifold learning, large-scale optimization, probabilistic graphical model

PUBLICATIONS

(*: conference paper; \dagger : journal paper; \triangle : preprint)

- △ Jiaqi Zhang, Manav Chakravarthy, and Ritambhara Singh. scMultiNODE: Integrative Model for Multi-Modal Temporal Single-Cell Data. *biorxiv*, 2024 (doi.org/10.1101/2024.10.27.620531).
- * Jiaqi Zhang, Erica Larschan, Jeremy Bigness, and Ritambhara Singh. scNODE: Generative Model for Temporal Single Cell Transcriptomic Data Prediction. 23rd European Conference on Computational Biology (ECCB) 2024 (Proceedings in Bioinformatics).
- ★ Jiaqi Zhang, Yiqin Wang, Meng Wang, and Beilun Wang. Sparse and Smooth Additive Isotonic Model in High-Dimensional Settings. *Machine Learning*, 2024 (in press).
- [†] **Jiaqi Zhang** and Ritambhara Singh. Investigating the Complexity of Gene Co-expression Estimation for Single-cell Data. *Journal of Machine Learning for Modeling and Computing*, 2023.
- [†] Beilun Wang, **Jiaqi Zhang**, Haoqing Xu, and Te Tao. Fast and scalable learning of sparse changes in high-dimensional graphical model structure. *Neurocomputing*, 2022.
- [†] Qianli Yang, Zhongqiao Lin, Wenyi Zhang, Jianshu Li, Xiyuan Chen, **Jiaqi Zhang**, and Tianming Yang. Monkey plays Pac-Man with compositional strategies and hierarchical decision-making. *Elife*, 2022.
- [†] Beilun Wang, **Jiaqi Zhang**, Yan Zhang, Meng Wang, and Sen Wang. Scalable Estimator for Multi-task Gaussian Graphical Models Based in an IoT Network. *ACM Transactions on Sensor Networks*, 17(3), June 2021.
- ★ Jiaqi Zhang, Meng Wang, Qinchi Li, Sen Wang, Xiaojun Chang, and Beilun Wang. Quadratic Sparse Gaussian Graphical Model Estimation Method for Massive Variables. International Joint Conferences on Artificial Intelligence Organization (IJCAI), 2020.

AWARDS

2024 ECCB Travel Fellowship

2021-2022 Brown Graduate Fellowship

CONFERENCE AND TALKS

<u>Title</u>: scMultiNODE: Integrative Model for Multi-Modal Temporal Single-Cell Data

2024 ECCB: Poster Presentation

2024 CSHL Biological Data Science: Poster Presentation

 $\underline{\mathbf{Title}}:$ scNODE: Generative Model for Temporal Single Cell Transcriptomic Data Prediction

2023 MLCB, 2024 RECOMB: Poster Presentation

2024 ECCB: Selected Talk

<u>**Title</u>**: Quadratic Sparse Gaussian Graphical Model Estimation Method for Massive Variables **2020 IJCAI**: Selected Talk & Poster Presentation</u>

TECHNICAL SKILLS

Programming Language	Python, R, C++, MATLAB, JAVA
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Machine Learning Pytorch, Tensorflow, Pyro, Pytorch-Geometric (PyG), Python OT, Sklearn

Data Processing Numpy, Pandas, SciPy, AnnData

Bioinformatics ScanPy, Seurat

Data Visualization matplotlib, seaborn, ggplot

PROFESSIONAL COMMUNITY SERVICE

2022 - 2024 Sub-reviewer of ICML, NeurIPS, ICLR, and RECOMB conferences.

PROJECT EXPERIENCE

Dropout-Aware Weighted NMF on scRNA-seq Data ◊ Course final project for CS2952Q Robust Algorithms for Machine Learning.	2022
Disease Prediction Using Deep Learning Methods	2022
\diamond Course final project for <i>CS2470 Deep Learning</i> , collaborated with Atishay Jain and Tassallah Abdullahi.	Amina
 A Distributed Repaying Loan Ability Evaluating System Based on Gradient Bo	osting
Machine ◇ Responsible for software architecture and backend modules implementation. ◇ Project for a seminar course; the third prize.	2018
 An Employee Management System Responsible for software architecture and core modules implementation. Project for a seminar course; the third prize. 	2017