Muhang Tian

929-626-2851
mt4193@nyu.edu
https://muhang-tian.com/

EDUCATION

Courant Institute, New York University   Jan. 2025 – Expected Dec. 2029
PhD in Computer Science

Duke University   Aug. 2020 – May 2024
BS in Computer Science, double minor in Mathematics and Economics (GPA: 3.9/4.0)
Graduation with Highest Distinction

HONORS AND AWARDS

Alex Vasilos Memorial Award: the highest award conferred by Duke Computer Science.   2024
Henry M. MacCracken Award: multi-year funding for New York University PhD students.   2024
CS+ Summer Research Fellowship: Duke summer research funding ($10,000).   2022 – 2023

PUBLICATIONS

*Equal contribution

[1] Peng, N.*, Tian, M.*, & Fain, B. (2025). **Multi-objective Reinforcement Learning with Nonlinear Preferences: Provable Approximation for Maximizing Expected Scalarized Return.** *(AAMAS).*

[2] Tian, M., Chen, B.*, Guo, A.*, Jiang, S., & Zhang, A. R. (2024). **Reliable Generation of Privacy-preserving Synthetic Electronic Health Record Time Series via Diffusion Models.** *(JAMIA).*

[3] Zhu, C. Q.*, Tian, M.*, Semenova, L., Liu, J., Xu, J., Scarpa, J., & Rudin, C. (2024). **Fast and Interpretable Mortality Risk Scores for Critical Care Patients.** *(JAMIA).*

[4] Fan, Z.*, Peng, N.*, Tian, M.*, & Fain, B. (2023). **Welfare and Fairness in Multi-objective Reinforcement Learning.** *(AAMAS).*

EXPERIENCES

Undergraduate Research Assistant | *Duke University*   May 2022 – May 2024
Research on diffusion models, reinforcement learning, and interpretable machine learning. All works published in journals and conferences. Also worked on various machine learning projects on applied computer vision and machine learning pipelines.

Machine Learning Engineer | *Big Ideas Lab*   Nov. 2022 – Mar. 2023
Implemented EfficientDet for object detection tasks on COVID-19 saliva test results. Collected data from public sources and applied data augmentation techniques to improve average precision by 35%.

Software Engineer | *Afloat*   May 2022 – Aug. 2022
Maintained company server, performed software testing, and weekly reported directly to co-founders.

Data Engineer | *Big Ideas Lab*   May 2022 – Oct. 2022
Used data from wearable devices such as Garmin and Apple Watch to estimate health outcomes with ML. Implemented ML algorithms to perform healthcare data analysis for the open-source repository.

ACADEMIC SERVICES

Reviewer: NeurIPS (2023), ICLR (2024), AAAI (2025), IEEE ICHI (2023).
Teaching Assistant: Design and Analysis of Algorithms, Microeconomics, Econometrics.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C/C++, R, SQL, MATLAB, CSS/HTML.
Softwares: PyTorch, TensorFlow, Keras, scikit-learn, NumPy, Pandas, Linux, Slurm, Docker, Git, Linux.