Muhang Tian

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https://muhang-tian.com/

EDUCATION

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

Duke University   Aug. 2020 – May 2024
B.S. 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. Works published in journals and conferences as (co-)first authors. Also worked on various machine learning projects on applied computer vision, machine learning pipelines, and bandit algorithms.

Machine Learning Engineer | *Big Ideas Lab*   May 2022 – Mar. 2023
Implemented EfficientDet for object detection tasks on COVID-19 saliva test results, applied data augmentation and regularization techniques to boost average precision. Applied ML algorithms on wearable device data to predict health outcomes.

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

Equity Research Analyst | *Sinolink Securities*   May 2021 – Aug. 2021
Analyzed market data for target firms, wrote weekly reports, and managed the company's database.

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.