Guangxun Zhang

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Education

New York University Sep 2023 - May 2027 (expected)
B.A. Honors Mathematics and B.A. Honors Computer Science *New York, NY*
Mathematics GPA 3.93 / 4.00 | Computer Science GPA 3.87 / 4.00

Awards and Funding

Computer Science Prize for Academic Excellence 2025 - 2026
Awarded to one student per year by the Department of Computer Science in recognition of academic excellence. [Award]

Presidential Honors Scholar 2024, 2025, 2026
Awarded for ranking within the top 10% of the entering first-year class.

Summer Undergraduate Research Experience Grant $4,400 2026
Selected as one of seven students for NYU Courant's competitive mathematics research program. [Program]

Dean's Undergraduate Research Fund Grant $2,000 2025
Awarded for demonstrating the skills required to conduct an independent research project.

Publications

[1] **Guangxun Zhang**, Mason Haberle, and Davi Geiger. "Stable Mean Flow: Lyapunov-Inspired One-Step Flow Matching." *CVPR 2026.* **Highlight paper (top 2.8% of all submissions).** [Paper]

[2] Zichen Jeff Cui, Omar Rayyan, Haritheja Etukuru, ..., **Guangxun Zhang**, ..., Lerrel Pinto, and Nur Muhammad Mahi Shafiullah. "Contact-Anchored Policies: Contact Conditioning Creates Strong Robot Utility Models." *Robotics: Science and Systems 2026.* [Project]

[3] **Guangxun Zhang** and Xiaomei Wang. "Multi-Scale Pyramid Feature Integration and Style-Mixing Contrastive Analysis for Robust Invasive Ductal Carcinoma Detection." *NTCI 2025.* [Paper]

[4] Xintong Zeng, Xiaomei Wang, and **Guangxun Zhang**. "Comparison of Different Models for Natural Gas Forecasting and Assessment." *ICDLT 2025.* [Paper]

Preprints & Manuscripts Under Review

[5] **Guangxun Zhang*** and Brian Cai*, Boxuan Zhang, Chao Chen, and Ruixiang Tang. "JIVE: Jacobian-Informed Volume Expansion for Diverse Generative Sampling." *Under review at ICLR 2027.* [arXiv] * *Equal contribution.*

[6] Xuanzheng He, **Guangxun Zhang**, and Davi Geiger. "A Dataset Is More Than a Bag of Pairs: Preserving Same-Scene Acquisition Structure for Physical Degradation Learning." *Under review at WACV 2027.*

Research Experience

JIVE Diverse Generative Sampling May 2026 - Sep 2026
TRAIL Lab, Rutgers University | Research Intern | Advised by Prof. Ruixiang Tang
Co-developed JIVE, a Jacobian-informed latent-branching method for diverse diffusion sampling. Formulated a local volume-expansion objective and designed branching experiments to broaden samples while preserving prompt alignment.

Chain-of-Thought Post-Training May 2026 - Present
Reasoning with AI Systems Lab, NYU | Research Assistant | Supervised by Prof. Pavel Izmailov
Designed a training-allocation strategy for chess language models under a fixed compute budget, shifting training time between continued pretraining on raw chess data and CoT post-training on Stockfish-selected tactical positions. Built a lightweight reasoning annotator and compared the resulting reasoning gains under matched total training time.

Learning Stochastic Dynamics from Snapshot Data Nov 2025 - Sep 2026
Summer Undergraduate Research Experience, NYU | Research Assistant | Supervised by Prof. Wenzheng Shi
Worked on recovering the governing SDE from snapshot data by estimating its drift and diffusion. Refined the drift by matching conditional multi-lag displacement velocities between observed and simulated trajectories, using grouped mean matching and an energy-distance drifting field to align residual transition spread.

Contact-Anchored Policies Apr 2025 - Feb 2026
Generalizable Robotics and AI Lab, NYU | Research Assistant | Supervised by Prof. Lerrel Pinto
Built a SAM2-based pipeline to segment manipulated objects and generate contact-anchor labels for robot demonstrations. Supported zero-shot evaluations across environments, tasks, and robot embodiments.

Stable Mean Flow May 2025 - Oct 2025
Courant Institute, NYU | Researcher | Advised by Mason Haberle and Prof. Davi Geiger
Improved the stability of one-step Mean Flow by making transport trajectories smoother through a Lyapunov-inspired regularizer that controls Jacobian-vector products (JVPs), reducing abrupt velocity changes between nearby states. Derived trajectory-drift bounds and evaluated sample quality, convergence, and stability.

Deep Learning for Invasive Ductal Carcinoma Detection Jun 2024 - Jan 2025
University of Electronic Science and Technology of China | Research Assistant | Advised by Prof. Xiaomei Wang
Designed a multi-scale histopathology classifier combining cellular morphology with tissue context. Added a style-mixing contrastive objective for robustness to staining variation and led ablations for the resulting NTCI 2025 paper.

Teaching Mentoring and Service

Reviewer, International Conference on Learning Representations 2027

Mathematics Grader Sep 2024 - May 2026
Courant Institute of Mathematical Sciences, NYU
Graded assignments and exams in Calculus III, Linear Algebra, Numerical Analysis, and Honors Numerical Analysis.

Undergraduate Research Mentor May 2026 - Sep 2026
Image Dehazing with Generative Models | Kooick Industry Project, NYU
Mentored a student project on diffusion-based image dehazing.

Peer Mentor Sep 2025 - Jan 2026
Mathematics and Computer Science | Peer Mentoring Program, NYU
Supported students with coursework, study strategies, and course planning.

Technical Skills

Programming	Python, C/C++, Java, MATLAB, SQL, x86 Assembly
Machine Learning	PyTorch, JAX, TensorFlow, Hugging Face Transformers, Diffusers, scikit-learn, NumPy, SciPy
Systems and Tools	Linux, CUDA, Docker, Slurm, Git, Jupyter, Weights & Biases, LaTeX
Mathematics	Probability & Statistics; Linear & Abstract Algebra; Discrete Mathematics; Real Analysis & Measure Theory; Numerical & Convex Analysis; Calculus on Manifolds; ODEs, PDEs & SDEs