

# Tianyi (Tony) Zhang

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## EDUCATION

**Columbia University**, New York, NY

Ph.D. in Decision, Risk, and Operations

Thesis: Horizon-free Learning in Dynamic Optimization Advisors: Daniel Russo, Assaf Zeevi

May 2024

GPA: 9.9/10.0

**University of Chicago**, Chicago, IL

M.S. in Statistics

June 2018

GPA: 3.81/4.00

**Peking University**, Beijing, China

B.S. in Mathematics and Applied Mathematics

B.S. in Biological Sciences

July 2016

GPA: 3.86/4.00

GPA: 3.73/4.00

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## PROFESSIONAL EXPERIENCE

**Cubist Systematic Strategies (Point72)**, New York, NY

May 2024 – Present

*Quantitative Researcher*

- Focus on global equity alpha signals with intraday to multi-day holding periods.
- Conduct alpha research using machine learning and advanced time series modeling.
- Developed both technical and fundamental raw features from daily and intraday data.
- Built modeling pipelines using modern machine learning techniques for nonlinear fitting.
- Wrapped up production-level alphas currently deployed in live trading.
- Collaborate with data engineering and portfolio management teams to integrate and monitor signals.

**Goldman Sachs**, New York, NY

Summer 2022

*Quantitative Strategist Summer Associate*

- Developed RL-based hedging models for European options under transaction cost constraints.
- Reduced mean hedging cost by 20% and variance by 6% relative to Delta hedging.

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## RESEARCH EXPERIENCE

**Horizon-Free Learning for Dynamic Pricing**

2019–2024

Studied optimal pricing under estimation error; proved regret bounds independent of time horizon and inventory.

**Optimal Stopping with Limited Samples**

2019–2021

Analyzed sample complexity and robustness of explore-then-commit policies; characterized phase transitions under distributional assumptions.

**Scalable Graph-based Attention**

2020–2021

Developed efficient kernel-based attention masking methods for transformer architectures on graph data.

**Near-Orthogonal Monte Carlo (NOMC)**

2019–2020

Constructed repelling particle systems for Monte Carlo sampling with lower variance in Wasserstein metrics.

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## SELECTED PUBLICATIONS

- Choromanski, K. M., et al., **Zhang, T.** (2023). "Efficient Graph Field Integrators Meet Point Clouds." *ICML*, Vol. 202, pp. 5978–6004.
- Choromanski, K., et al., **Zhang, T.** (2022). "From Block-Toeplitz Matrices to Graph Differential Equations." *ICML*, Vol. 162, pp. 3962–3983.
- Russo, D., Zeevi, A., **Zhang, T.** (2021). "Learning to Stop with Surprisingly Few Samples." *COLT*, Vol. 134, pp. 3887–3888.
- Lin, H., Chen, H., **Zhang, T.**, et al. (2020). "Demystifying Orthogonal Monte Carlo." *NeurIPS*.

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## SKILLS

**Programming:** Python, SQL, R, MATLAB, C, LaTeX

**Libraries:** Pandas, PyTorch, Scikit-learn, XGBoost, LightGBM, TensorFlow, Ray, Xarray

**Tools:** Git, Linux, Airflow