

# GENE X. LI

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## EDUCATION

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### Toyota Technological Institute at Chicago

Ph.D. in Computer Science: 4.0/4.0 2019 - 2025

M.S. in Computer Science: 4.0/4.0 2019 - 2021

Ph.D. Thesis: *Agnostic Reinforcement Learning: Foundations and Algorithms*, advised by Nathan Srebro.

### Princeton University 2015 - 2019

B.S.E in Electrical Engineering: 3.95/4.0, *summa cum laude*

Certificate in Statistics and Machine Learning

Senior Thesis: *Learning Dynamical Systems with Sparsity Structure*, advised by Yuxin Chen.

## RESEARCH INTERESTS

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My academic research interests lie at the intersection of theoretical machine learning and decision making; specifically on understanding statistical/computational complexity for reinforcement learning.

## PUBLICATIONS ( $\alpha$ denotes alphabetical author order.)

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### PUBLICATIONS

#### The Role of Environment Access in Agnostic Reinforcement Learning

$\alpha$ : Akshay Krishnamurthy, **G. Li**, Ayush Sekhari.

*Conference on Learning Theory (COLT)*, 2025.

#### Optimistic Rates for Learning from Label Proportions

**G. Li**, Lin Chen, Adel Javanmard, Vahab Mirrokni.

*Conference on Learning Theory (COLT)*, 2024.

#### Dueling Optimization with a Monotone Adversary

$\alpha$ : Avrim Blum, Meghal Gupta, **G. Li**, Naren Sarayu Manoj, Aadirupa Saha, Yuanyuan Yang.

*Algorithmic Learning Theory (ALT)*, 2024. (**Outstanding Paper Award**)

Short version appeared at *NeurIPS OPTML Workshop*, 2023. (**Oral**)

#### When is Agnostic Reinforcement Learning Statistically Tractable?

$\alpha$ : Zeyu Jia, **G. Li**, Alexander Rakhlin, Ayush Sekhari, Nathan Srebro.

*NeurIPS*, 2023.

#### Pessimism for Offline Linear Contextual Bandits using $\ell_p$ Confidence Sets

**G. Li**, Cong Ma, Nathan Srebro.

*NeurIPS*, 2022.

#### Understanding the Eluder Dimension

**G. Li**, Pritish Kamath, Dylan J. Foster, Nathan Srebro.

*NeurIPS*, 2022.

#### Exponential Family Model-Based Reinforcement Learning via Score Matching

**G. Li**, Junbo Li, Anmol Kabra, Nathan Srebro, Zhaoran Wang, Zhuoran Yang.

*NeurIPS*, 2022. (**Oral**)

## WORK EXPERIENCE

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**Two Sigma Quantitative Researcher**, New York, NY.

*2025 - present*

**Two Sigma Quantitative Research Intern**, New York, NY.

*Summer 2024*

**Google Student Researcher**, Remote.

*July 2023 - December 2023*

**Microsoft Software Engineering Internship**, Boston, MA.

*Summer 2018*

**Citadel LLC Software Engineering Internship**, Chicago, IL.

*Summer 2017*

## HONORS AND AWARDS

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Reinforcement Learning Summer School attendee, Barcelona, Spain, 2023.  
NeurIPS Scholar Award, 2022, 2023.  
NSF GRFP Honorable Mention, 2019 & 2021.  
G. David Forney, Jr Prize for Communication Sciences, Systems and Signals, Princeton, 2019.  
Best Independent Work Prize, Center for Statistics and Machine Learning, Princeton, 2019.  
Phi Beta Kappa Society Inductee, Princeton, 2019.  
Shapiro Prize for Academic Excellence, Princeton, 2017.  
US Presidential Scholar, 2015.  
USA Mathematical Olympiad (USAMO) Qualifier, 2014.

## TEACHING

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**Co-Instructor**, Convex Optimization, TTIJ, March 2024.  
**Teaching Assistant**, Statistical and Computational Learning Theory, Winter 2023.  
**Teaching Assistant**, Research at TTIC Colloquium, Fall 2021 - Spring 2022.  
**Logistics Teaching Assistant**, Special Quarter on *Theory of Deep Learning*, Institute for Data, Econometrics, Algorithms, and Learning (IDEAL) Fall 2020.  
**Lab Teaching Assistant** for Intro CS Classes (Princeton COS 126/217/226), 2017 - 2019.

## TALKS

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IDEAL Annual Meeting, June 2025.  
Reinforcement Learning Theory Virtual Seminar, May 2024.  
Northwestern University CS Theory Seminar, November 2023.  
TTIC Student Workshop, November 2022.  
University of Chicago, CS Theory Lunch Seminar, May 2022.

## SERVICE AND PROFESSIONAL ACTIVITIES

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**Reviewer**: IEEE Transactions on Signal Processing (TSP), Journal of Machine Learning Research (JMLR), NeurIPS 2023, NeurIPS M3L Workshop 2023, ICLR 2024, ICML 2024.  
**Reader** for TTIC PhD Applications, 2022.  
**Math Circles of Chicago**, teaching assistant for Haynes Program (5th/6th grade), 2021-2025.  
**TTIC Student Workshop**, co-organizer, 2021.  
**TTIC/UChicago Student Theory Seminar**, co-organizer, 2021.  
**Collaboration on the Theoretical Foundations of Deep Learning**, NSF/Simons Foundation. Participating graduate student, 2020 - 2025.  
**Theory of Reinforcement Learning Program**, Simons Institute, Berkeley, CA. Visiting graduate student in Fall 2020.