

# GENE LI

Ph.D. Student · Toyota Technological Institute at Chicago  
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## EDUCATION

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### Toyota Technological Institute at Chicago

Ph.D. in Computer Science: 4.0/4.0

2019 - present

M.S. in Computer Science: 4.0/4.0

2019 - 2021

Advisor: 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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Statistical learning theory, reinforcement learning, high-dimensional statistics.

## HONORS AND AWARDS

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NeurIPS Scholar Award, 2022.

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.

## PUBLICATIONS

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### PUBLICATIONS

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

Gene Li, Cong Ma, Nathan Srebro.

*NeurIPS*, 2022.

#### **Understanding the Eluder Dimension**

Gene Li, Pritish Kamath, Dylan J. Foster, Nathan Srebro.

*NeurIPS*, 2022.

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

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

*NeurIPS*, 2022.

## TEACHING

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**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.

## WORK AND ENGINEERING EXPERIENCE

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**Google Student Researcher**, July 2023 - December 2023.

**Microsoft Software Engineering Internship**, Boston, MA, Summer 2018.  
Chaos engineering testing framework on Azure Machine Learning team.

**ELE 302: Building Real Systems** (course project), Princeton University, Spring 2018.  
Built and programmed a robotic car to travel at constant speed on various terrain and line-follow.  
Developed "find-and-go-see" algorithm on omnibots equipped with distance sensors to locate each other.

**Citadel LLC Software Engineering Internship**, Chicago, IL, Summer 2017.  
Infrastructure development on Global Commodities team.

**Vanderbilt University Summer Research Program**, Nashville, TN, Summer 2016.  
Built Android app in collaboration with Metro Nashville Police Department.

## TALKS

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TTIC Student Workshop, November 2022.

University of Chicago, CS Theory lunch seminar, May 2022.

COLT, Impromptu Talk, August 2021.

## SERVICE AND PROFESSIONAL ACTIVITIES

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**Reviewer:** IEEE Transactions on Signal Processing (TSP), Journal of Machine Learning Research (JMLR), NeurIPS 2023.

**Reader** for TTIC PhD Applications, 2022.

**Math Circles of Chicago**, teaching assistant for Haynes Program (5th/6th grade), 2021-present.

**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 - present.

**Theory of Reinforcement Learning Program**, Simons Institute, Berkeley, CA.  
Visiting graduate student in Fall 2020.

**Student Volunteer** at ICML 2020, STOC 2020.

## RELEVANT COURSEWORK AND SKILLS

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**TTIC Coursework:** Convex Optimization, Statistical and Computational Learning Theory, Graduate Algorithms, Online Learning and Optimization, Information Theory and Coding, Algorithms for Massive Data, Fundamentals of Deep Learning, Introduction to Computer Vision, Measure Theoretic Probability, Real Analysis.

**Graduate Coursework at Princeton:** Natural Language Processing, Probability in High Dimension, Theoretical Machine Learning, Large-Scale Optimization for Data Science.

**(Selected) Undergraduate Coursework at Princeton:** Algorithms and Data Structures, Programming Systems, Statistical Signal Processing, Differential Equations, Transmission and Compression of Information, Quantum Computing, Designing and Building Real Systems.

### Programming

Languages: Python, Java, C, LaTeX, MATLAB, SQL.

Packages & Tools: PyTorch, scikit-learn, CVXOPT, Docker.