GENE LI

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

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

HONORS AND AWARDS

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, PREPRINTS, AND TECHNICAL REPORTS

Publications

Exponential Family Model-Based Reinforcement Learning via Score Matching
Gene Li, Junbo Li, Nathan Srebro, Zhaoran Wang, Zhuoran Yang.
Deep Reinforcement Learning Workshop, NeurIPS, 2021.

Preprints

Eluder Dimension and Generalized Rank
Gene Li, Pritish Kamath, Dylan J. Foster, Nathan Srebro.
arXiv, 2021.

Technical Reports

Learning Linear Dynamical Systems with Sparsity Structure
Undergraduate thesis advised by Yuxin Chen, 2019

A Lazy Random Walk Operator for Matrix Factorization Word Embeddings
Undergraduate independent work advised by Emmanuel Abbe, 2018.

Divided We Tweet: Community Detection in Political Networks
Undergraduate independent work advised by Emmanuel Abbe, 2017.

WORK AND ENGINEERING EXPERIENCE

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-seek" 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.

SERVICE AND PROFESSIONAL ACTIVITIES

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.

TEACHING

Teaching Assistant, Research at TTIC Colloquium, Fall 2021 - present.

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.

RELEVANT COURSEWORK AND SKILLS

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, 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, Desiging and Building Real Systems.

Programming
Languages: Python, Java, C, LaTeX, MATLAB, SQL.
Packages & Tools: PyTorch, scikit-learn, CVXOPT, Docker.