# RACHEL X. LI

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## EDUCATION

**Harvard University** Cambridge, MA
Joint A.B. in Computer Science & Statistics May 2023
*Magna cum laude with highest honors*

## SELECTED HONORS AND AWARDS

- Harvard Department of Statistics Senior Concentrator Prize (2023)
  for "best overall performance and contributing significantly to the department"
- Harvard University Certificate of Distinction in Teaching (2020-2023)
- National Gallery for America's Young Inventors Inductee (2019)
- 2nd Place Materials Science at Intel ISEF (2018)
- 2nd Place Winner at Siemens Competition (2017)

## PUBLICATIONS

Strategyproof Voting under Correlated Beliefs.
D. Halpern, **R. Li**, and A. D. Procaccia
In *Proceedings of the 37th Conference on Neural Information Processing Systems (**NeurIPS**), 2023.*

## RESEARCH EXPERIENCE

**Harvard University** Cambridge, MA
***Senior Thesis Research*** April 2022 – May 2023
**Advisor**: Ariel Procaccia, Professor of Computer Science
**Project**: Strategyproof Voting under Correlated Beliefs

- Researched and characterized strategyproofness of voting rules in the setting where voters form Bayesian beliefs on the preferences of other voters.
- Proved theoretical result that plurality is uniquely strategyproof amongst positional scoring rules with respect to a class of correlated beliefs induced by classical probabilistic models (e.g., Mallows, Plackett-Luce, Thurstone-Mosteller). Collaborated with graduate student D. Halpern.
- Coded simulation demonstrating that non-scoring rules (Copeland, maximin) also fail to be strategyproof.
- Senior thesis received highest honors.
- Presented poster at NeurIPS 2023 conference.

## WORK EXPERIENCE

**Citadel Securities** New York, NY
***Fundamental Analyst*** September 2023 – *Present*

- Research and monetize event-based and thematic trading opportunities.
- Conduct statistical analysis to identify predictive signals for asset pricing and optimize portfolio management.
- Design and implement trading GUI to improve efficiency and inform better risk decisions.

**Harvard University** Cambridge, MA
***Teaching Fellow*** August 2020 – May 2023

- Stat 110: Introduction to Probability (Fall 2020, 2021, 2022)
- Stat 111: Introduction to Statistical Inference (Spring 2021, 2022, 2023)
- Stat 123: Quantitative Finance (Spring 2022)
- Taught section class of 20-30 students and held weekly office hours.
- Wrote materials and teaching notes for future course staff.

## WORK EXPERIENCE (CONT.)

**Bridgewater** Westport, CT

***Investment Associate*** June – August 2022

- Conducted research on the currencies team to predict foreign direct investment flows into emerging economies.

**ApolloMed** Alhambra, CA

***Data Science Intern*** December 2021 – January 2022

- Built data visualization tools to benchmark medical provider performance and identify geographical regions for network expansion; analyzed patient churn across different health plans and age groups.

**Capula Investment Management** London, UK

***Trading Intern*** June – August 2021

- Researched and identified market signals for ETF volatility trading strategy around macroeconomic events.

**IBM Research** Yorktown Heights, NY

***Quantum Software Developer Intern*** June – August 2020

- Implemented full-stack web development for quantum hardware assembly configuration management.

## LEADERSHIP & ACTIVITIES

**Group for Undergraduates in Statistics at Harvard (GUSH)**

***Founder / Co-President*** September 2019 – May 2023

- Founded statistics student organization with more than 500 members across Harvard College and graduate schools in GSAS, Medical School, and School of Public Health.
- Led the team to organize speaker and alumni panels, mentorship programs, R coding workshops, and social events.
- Board member since Sept 2022, advised current presidents and assisted with events.

**Cambridge Afterschool Program**

***Volunteer*** January 2022 – May 2023

- Taught 3rd and 4th graders as part of an afterschool program that provides affordable and accessible tutoring to low-income Cambridge youth.

## RELEVANT COURSEWORK

**graduate-level course*

**Computer Science**

- *CS 238: Computational social choice, fair division
- *CS 237: Approximation theorems, complexity, cryptography
- *CS 236R: Reading seminar on the value of information and data
- CS 136: Algorithmic game theory, auctions, mechanism design, peer prediction
- CS 91R: Reading seminar on cooperative games, recommender systems, networks, privacy
- MIT 6.036: Machine learning
- CS 124: Data structures and algorithms
- CS 121: Theoretical computer science

**Statistics**

- *Stat 244: Linear and generalized linear models
- *Stat 210 & Stat 110: Probability
- Stat 185: Unsupervised learning
- Stat 171: Stochastic processes
- Stat 123: Quantitative finance
- Stat 111: Statistical inference