

# ELLIE TYGER

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## EDUCATION

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### Stanford University

*PhD in Economics*

*Minor in Computer Science*

*in progress*

### E.S. Shaw and B.F. Haley Fellowship for Economics

**Fields:** microeconomic theory, market design, computational economics

**Co-Primary Advisers:** Al Roth and Mohammad Akbarpour

**Relevant Coursework:** CS 221: Artificial Intelligence, CS 299: Machine Learning, CS 224W: Machine Learning with Graphs, CS 246: Mining Massive Datasets, CS 269I: Incentives in Computer Science, CS 205L: Continuous Mathematical Methods with an Emphasis on Machine Learning

### Northwestern University

*B.A. in Mathematical Methods in the Social Sciences & Economics*

*Minors in Computer Science & Statistics*

2014 - 2018

**Cum Laude:** GPA 3.78/4.00, Dean's List

**Thesis:** "Interplay of Policy Instruments in Climate Economics"

**Michael F. Dacey Award** for Most Outstanding Mathematical Methods in the Social Sciences Senior Thesis

## WORK EXPERIENCE

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### Stanford University

*Teaching Assistant*

September 2022 - June 2024

*Palo Alto, CA*

- **Fall 2022 & Fall 2023:** ECON 202 (Graduate Microeconomics I), TA to Ilya Segal and Ravi Jagadeesan
- **Winter 2023 & Winter 2024:** ECON 102A (Introduction to Statistical Methods (Postcalculus) for Social Scientists), TA to Scott McKeon
- **Spring 2023:** ECON 136 (Market Design), TA to Paul Milgrom
- **Spring 2024:** ECON 137 (Decision Modeling and Information), TA to Scott McKeon

### Uber Technologies, Inc.

*PhD Applied Scientist Intern*

June 2023 - September 2023

*San Francisco, CA*

- Studied driver behavior and reactions to incentives as a part of the driver pricing team

### Stanford University

*Research Assistant to Al Roth*

June 2021 - September 2022

*Palo Alto, CA*

- Explored topics relating to repugnant transactions, the market for ransomware, and cryptocurrency

### Boston Consulting Group

*Associate*

July 2018 - April 2020

*Chicago, IL*

- **Public Sector:** Studied contract structures and terms to develop best practices for future negotiations. Applied game theoretical concepts and conducted comprehensive industry interviews to inform recommendations
- **Public Sector:** Analyzed supply-chain data and industry benchmarks to improve operations. Evaluated large quantities of client data to understand current state and recommend changes to inventory management strategy
- **Private Equity:** Conducted due diligence on five potential private equity deals from both buy- and sell-side perspectives
- **Consumer:** Performed market research to aid a large consumer brand in its category expansion efforts
- **Retail:** Created materials (e.g., starting terms) for supplier negotiations by analyzing past transaction and vendor data

- **Transportation:** Developed a pilot program to support employee transit in economically disconnected neighborhoods as part of joint effort among employers, transit companies, and Metropolitan Planning Council of Chicago
- **Analytics Support Cadre:** Assisted colleagues with data analysis and computational challenges. Led new hire training sessions on how to develop analytical models

**Boston Consulting Group**

*Summer Associate*

June 2017 - August 2017

*Chicago, IL*

- **Pharmaceuticals:** Conducted market research to propose an innovative go-to-market strategy for a new drug

**Northwestern University**

*Teaching Assistant*

March 2016 - March 2018

*Evanston, IL*

- **Winter 2018:** EECS 211 (Fundamentals of Computer Programming II)
- **Fall 2017:** EECS 214 (Data Structures & Data Management)
- **Spring 2016:** EECS 111 (Fundamentals of Computer Programming)

**Federal Deposit Insurance Corporation, Division of Insurance and Research**

*Student Trainee, Economist*

June 2016 - May 2017

*Chicago, IL*

- Performed statistical analysis on financial and economic data to assist analysts in writing reports and creating forecasts
- Conducted research and prepared briefings for both internal FDIC resources and external presentations to regional banking professionals
- Created automated systems and tools in Excel to efficiently extract and display the most current data and insights

**WORKING PAPERS**

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**Dynamic Decompositions of the Gender Wage Gap** (*coauthors Susan Athey and Keyon Vafa*): estimates a detailed decomposition of the gender wage gap by fine-tuning a foundation model (pre-trained to predict next job from a large resume dataset) on PSID data, maintaining a representation of job history that is informative without being too large compared to the size of the training data. Introduces a novel dynamic decomposition to split changes in the gender wage gap into a component due to difference in starting characteristics and a component due to differential career transitions. [*pdf coming soon: see website for updates*]

**Learning in non Strategy-proof Matching Mechanisms:** studies when an equilibrium can be reached under weak informational assumptions. Proves that the Boston school choice mechanism converges to the student-optimal stable matching under weak conditions when agents make adjustments to their reports based on their allocation in the previous round. [*pdf coming soon: see website for updates*]

**Outcome Contingent Equilibrium** (*coauthor Alexander Haberman*): defines a new equilibrium concept that accommodates varying levels of information disclosure to agents. Identifies an explanation for why agents are better able to strategize in some non-strategy proof mechanisms than they are in others [*pdf coming soon: see website for updates*]

**SKILLS & INTERESTS**

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<b>Skills</b>	Python, PyTorch, SQL, Excel, L <sup>A</sup> T <sub>E</sub> X, MatLab, R
<b>Languages</b>	Proficient in Spanish, conversational in French
<b>Interests</b>	Classical piano & violin, jazz piano, knitting, reading, baseball, tennis