

# Elena Tej Grewal, Ph.D.

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## Experience

### Ice Cream Properties LLC

*Business Owner*

New Haven, CT

*February 2022 - Present*

- Landlord for 3-family home in New Haven at 112 Maple Street.

### Elena's on Orange LLC

*Business Owner*

New Haven, CT

*August 2021 - Present*

- Created Soft Serve Ice Cream Shop open November 2022.

### Data 2 the People

*Founder & CEO*

New York, NY

*January 2020 - Present*

- Values-led data science consultancy, focused on progressive political candidates.
- Strategic thought partner to Democratic campaign managers and program directors. Improved spend efficiency through voter-level models of candidate support, randomized control trials to measure the impact of voter outreach, and aggregating voter data and other sources to provide strategic insights.
- Ran digital and text programs for 6 Texas State House Democratic candidates (all women, 2 Black, 2 Latina candidates), starting and leading a new Texas PAC "Lone Star Votes" .
  - 5 out of 6 candidates improved on 2018 vote share; 6 out of 6 outperformed 2016 results.
- Provided early forecasts of COVID-19 cases and deaths for the State of Louisiana Governor's office.
- Set up partnerships with environmental advocacy groups in Colorado to evaluate marketing campaigns.

### Yale School of Environment

*Lecturer*

New Haven, CT

*September 2021 - Present*

- Created top-rated class "Real World Environmental Data Science" teaching Python and Data Science to 28 Masters and PhD level students.

### Airbnb, Inc.

*Director, Head of Data Science:*

San Francisco, CA

*June 2016 – June 2019*

- Executive leader for data and research at the company, leading team of over 200 data scientists.
- One of 2 women in Airbnb's 50+ technology leadership. Highest level of data science leadership.
- **Built and managed equitable, world-class, diverse data science team:**
  - Recruited and retained world-class talent. 90% offer acceptance rate, recruited top data science leaders from Twitter & Facebook. High employee engagement and retention, above company average.
  - Increased the percent of women from 15% to 42%. Shared methods and results in [public blog post](#), "Beginning with Ourselves: Using Data Science to Improve Diversity at Airbnb."
  - Set salaries and promotions on data science, ensuring fairness.
  - Created mentorship and coaching opportunities for team leaders, promoting several employees to Director level through strategic coaching (highest leadership level).
- **Led critical data, research, and technology efforts:**
  - Developed a new framework of success metrics adopted by teams across the company, creating meaningful improvements in accountability and performance to goals. Automated system through data pipelines and dashboards.
  - Anti-discrimination task force member, overseeing research on discrimination on the platform. Efforts contributed to reducing discrimination against Black guests.
  - Oversaw yearly company-wide analysis of pay equity which resulted in pay adjustments.
  - Executive sponsor for "Data University," an industry-leading innovative data education program to educate over one thousand Airbnb employees on how to use data effectively at their jobs. Over 30 data scientists served as instructors for Data University. Highly rated, NPS (Net Promotor Score) of 81 for top class.
  - Quantified impact of machine learning and built state-of-the-art machine learning capacity.
- **Data science industry leader:**
  - Recognized public speaker, gave talks at 15+ industry leading events, including keynote speaker at top machine learning conference, KDD 2019.

- Created roles and career tracks defined in [article](#) read by over 50k, shared over 400 times.
- Featured in the Los Angeles Times in [“How I made it: Elena Grewal leads Airbnb’s Data Scientists”](#)

#### *Data Science Manager:*

October, 2013 - June, 2016

- Built and led data science teams for the main revenue generating parts of the business: search, booking, pricing, and host growth. Scaled teams quickly and drove significant revenue growth. Company valuation increased from \$2.8B to \$31B during this time.

#### *Data Scientist:*

June, 2012 - October, 2013

- Ran first experiment (randomized control trial) ever implemented at the company to evaluate the impact of Airbnb’s Global Operations team. Presented analysis to executive team and board members. Results led to the reassignment of hundreds of Airbnb employees to new roles.
- Led data science work on Airbnb identify verification, writing code to capture steps in the verification process, and testing the efficacy of verification on reducing negative incidents on the platform. Informed decision to strategically use identify verification steps to protect users without creating unnecessary business cost.
- Fifth hire onto Airbnb’s analytics team, first employee hired with title “Data Scientist.”

### **Stanford University**

Stanford, CA

#### *Independent Researcher, Dissertation Research:*

Sept. 2007 – Present

- Examine socioeconomic segregation in school social networks, using exponential random graph models, weighted least squares regression, iterated chained equation data imputation, principal component analysis, and survival models
- Use community detection algorithms to identify cliques in school social networks
- Work with dataset of over 90,000 students and 400,000 dyads, writing programs using Stata, R, and C++
- Visualize data using network visualization software/packages (Gephi, igraph, statnet, Pajek)

#### *With Professor Sean Reardon:*

- Co-author of paper in the Journal of Policy and Management, “Brown Fades: The end of court-ordered school desegregation and the resegregation of American public schools.” Collected data on the current status of school desegregation court orders in 1,071 school districts and conducted literature review. Ran logarithmic regressions to identify district characteristics that correlated with a release from desegregation court order
- Calculated achievement gaps by parent income and education, resulting in a widely publicized report. Press coverage included NYT article “Education Gap Grows Between Rich and Poor, Studies Say,” February 9, 2012

### **Stanford University School of Education**

Stanford, CA

#### *Teaching Assistant, Statistical Analysis in Education*

Winter 2010 & Winter 2011

- Explained complex statistical concepts to students from non-technical backgrounds
- Taught graduate students how to analyze and visualize data using Stata
- Led weekly lectures to section of 22 students and met one-on-one with students to provide additional instruction

### **Stanford Institute for the Quantitative Study of Society**

Stanford, CA

#### *Research Assistant*

Aug. 2008 – May 2010

- Collaborated with an interdisciplinary team of researchers, providing feedback on the content and quantitative analysis methodologies of papers on a wide range of topics - from measuring the effect of the internet on political polarization to the effect of Sarah Palin on John McCain’s vote share

### **Center for Education Policy at Stanford**

Stanford, CA

#### *Research Assistant*

Sept. 2006 – Sept. 2007

- Modeled teacher retention in New York City using multinomial logistic regressions, testing whether teachers who entered teaching from a prior career were more likely to transfer to another school or leave teaching

## **Education**

### **Stanford University**

Stanford, CA

#### *Ph.D. in Education*

2013

- **Relevant Courses:** Programming Abstractions, Computer Organization and Systems, Natural Language Processing, Stochastic Processes, Linear Algebra and Matrix Theory, Experimental Research Designs
- **Other:** Certificate in Computational Social Science

### **Stanford University**

Stanford, CA

#### *M.A. in Economics*

2011

- **Relevant Courses:** Advanced Econometrics, Economic and Social Networks

**Yale University**

*B.A. in Ethics, Politics, and Economics*

New Haven, CT

2006

- **Activities:** Public School Intern at Hill Central Music Academy, working 10 hours a week at New Haven Public School, coordinating Yale volunteer groups. Coached 3rd place Book Bowl Team (city-wide reading competition).

## Skills

**Programming Languages:** SQL; C++, C, Java, Python; HTML, CSS, Javascript;  $\text{\LaTeX}$

**Statistical Software:** Python, R, Stata

## Awards

Stanford Interdisciplinary Graduate Fellowship, Institute of Education Sciences Fellowship, Programming Abstractions Programming Contest Winner, North American Collegiate Bridge Championship Winner

## Volunteer

**East Rock Community Management Team** - Chair of local community group improving quality of life and safety.  
**Connecticut Violence Intervention Program** - Provide technical support and program development to Non-profit preventing violence among high risk youth.

**Women in Data Science** - Created program called "Data days" to teach middle school girls data science in collaboration with the Stanford Women in Data Science Group. Ran program at King/Robinson Middle School in New Haven.