

# Dongyang He

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## PROFILE

- Ph.D. Candidate of Economics at Penn State University, adept at applied econometrics and machine learning.
- Five-year hands-on experience with demand estimation and causal inference in Python and R.
- Proficient skills in working with large-scale administration data and survey data

## EDUCATION

<b>The Pennsylvania State University</b>   College of the Liberal Arts <i>Ph.D. Candidate in Economics (STEM)</i> • Fields: Spatial Economics, Applied Econometrics, Applied Microeconomics	Expected May 2025 GPA: 3.73/4
<b>The Pennsylvania State University</b>   Schreyer Honors College <i>M.A. in Economics, B.S. in Mathematics (Schreyer Scholar)</i>	May 2019 GPA: 3.83/4

## SKILLS

### Economics

- Structural Estimation: Discrete Choice Model, Dynamic Demand, BLP, Spatial Model
- Causal Inference: Diff-in-Diff, A/B Testing, Regression Discontinuity, Instrumental Variable
- Machine Learning: Regularized Regression, Clustering, Random Forests, Synthetic Control

### Programming

- Modeling: Python, R, Stata, Matlab, SQL, Shell, ArcGIS, SQL

## WORK EXPERIENCE

<b>Research Assistant</b> , Department of Economics, the Pennsylvania State University • Implemented a dynamic education demand model to evaluate the effects of cash transfers on school enrollments in Mexico. • Leveraged high-performance computing infrastructure, ArcGIS, Git, R, and Python for data analysis and modeling.	May 2022 - Aug 2022
<b>Short-Term Consultant</b> , European Bank for Reconstruction and Development • Compiled, cleaned, visualized, and analyzed maps and census data from Mumbai, India. • Recognized and awarded Bates White Research Funding (\$ 1500) for significant contributions to the project.	Jan 2019 - May 2019

## RESEARCH EXPERIENCE

<b>Distributional Impacts of Exclusionary Zoning Policies</b> • Investigated the differential impacts of density and height regulations across income groups in the greater Boston area, using large-scale parcel-level housing data covering 1 million residential properties. • Employed spatial discontinuity design to examine the impact of zoning restrictions on housing supply and demographic composition. • Formulated a theoretical housing production model to rationalize the impacts and interactions of density and height regulations on housing supply. • Developed a discrete choice model to estimate preferences of heterogenous households over locations and housing.	2023
<b>Migration and Proximity Preference in Fertility Decision</b> • Examined how distance from hometown might impact people's fertility decision, using large-scale survey data covering 5 million households in the U.S. from 2000 to 2019. • Constructed a discrete choice model to estimate households' preferences over locations, fertility choices, and consumption. • Discovered that changes in migration pattern can account for 5% of the changes in fertility rate since 2000.	2022
<b>Industrial Payments and Physicians' Prescriptions</b> • Explored the impact of industrial payments on physicians' prescription choices in the Statin market, using over 10 million prescription records from 16,000 physicians during 2016 and 2017. • Applied a split-sample Lasso approach to systematically select controls and instruments from around 500 potential variables for demand estimation.	2020

## LEADERSHIP EXPERIENCE

<b>Founder and Organizer</b> , International Trade Reading Group, Penn State • Established and led the International Trade Reading Group, overseeing weekly research presentations for the past three years, totaling over 100 sessions. • Attracted participation from 13 Ph.D. researchers in the field, fostering research discussions and collaborations.	2020 – Present
<b>Instructor</b> , Department of Economics, Penn State • Guided and instructed a cohort of 70 undergrad students on Intermediate Microeconomics and International Trade.	Summer 2021, Summer 2023