

# 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>	Expected May 2025 GPA: 3.73/4
• Fields: Spatial Economics, Applied Econometrics, Applied Microeconomics	
<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: R, Python, Stata, Matlab, SQL, Shell, ArcGIS, SQL

## WORK EXPERIENCE

<b>Research Assistant</b> , Department of Economics, the Pennsylvania State University	May 2022 - Aug 2022
• Conducted estimations on the effects of cash transfers on school enrollments using a dynamic education demand model.	
• Leveraged high-performance computing infrastructure, ArcGIS, Git, R, and Python for data analysis and modeling.	
<b>Short-Term Consultant</b> , European Bank for Reconstruction and Development	Jan 2019 - May 2019
• Compiled, cleaned, visualized, and analyzed maps and census data from Mumbai, India.	
• Ensured timely delivery of results through regular coordination with fellow researchers.	
• Recognized and awarded Bates White Research Funding for significant contributions to the project.	

## RESEARCH EXPERIENCE

<b>Distributional Impacts of Exclusionary Zoning Policies</b>	2023
• 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 heterogeneous households over locations and housing.	
<b>Migration and Proximity Preference in Fertility Decision</b>	2022
• 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.	
<b>Industrial Payments and Physicians' Prescriptions</b>	2020
• 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 a vast potential set for demand estimation.	

## LEADERSHIP EXPERIENCE

Founder and Organizer, International Trade Reading Group, Penn State	2020 – Present
• Orchestrated weekly research presentations, attracting participation from 11 Ph.D. researchers in the field.	
• Fostered a vibrant platform for promoting research discussions and collaboration.	
Instructor, Department of Economics, Penn State	Summer 2021, Summer 2023
• Guided and instructed a cohort of seventy undergrad students on Intermediate Microeconomics and International Trade.	
Fellow, Mathematics Advanced Study Semesters Program, Penn State	Fall 2017
• Recognized for sustained passion in mathematics and actively engaging with program participants from across the nation.	