

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

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| The Pennsylvania State University College of the Liberal Arts <i>Ph.D. Candidate in Economics (STEM)</i> | Expected Aug 2024 GPA: 3.73/4 |
| The Pennsylvania State University 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

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| Research Assistant , Department of Economics, the Pennsylvania State University | May 2022 - Aug 2022 |
| <ul style="list-style-type: none">• 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. | |
| Short-Term Consultant , European Bank for Reconstruction and Development | Jan 2019 - May 2019 |
| <ul style="list-style-type: none">• 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

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| Distributional Impacts of Exclusionary Zoning Policies | 2023 |
| <ul style="list-style-type: none">• 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. | |
| Migration and Proximity Preference in Fertility Decision | 2022 |
| <ul style="list-style-type: none">• 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. | |
| Industrial Payments and Physicians' Prescriptions | 2020 |
| <ul style="list-style-type: none">• 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

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| Founder and Organizer, International Trade Reading Group, Penn State | 2020 – Present |
| <ul style="list-style-type: none">• 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 |
| <ul style="list-style-type: none">• 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 |
| <ul style="list-style-type: none">• Recognized for sustained passion in mathematics and actively engaging with program participants from across the nation. | |