

## EDUCATION

<b>The Pennsylvania State University</b>   Ph.D. Candidate in Applied Economics	Expected 2025
Fields: Environmental Economics; Applied Econometrics (Ph.D. advisor: Karen Fisher-Vanden)	
<b>Zhejiang University</b>   M.E. & B.E., in Engineering (Honors)	2012 – 2019

## RESEARCH PROJECTS

**Decision-Making Analysis of Household Adaptation to Droughts** – R, MATLAB & ArcGIS May 2022 – present

- **Structural Estimation:** Created a spatial equilibrium model to forecast household location choices in response to intensifying droughts in the Western U.S. This work innovatively combined labor and housing market analyses to address the complexities of multimarket demand and supply dynamics.
  - **Discrete Choice Analysis:** Utilized an advanced discrete choice model to analyze ~8 million household location choices across 80 counties using maximum likelihood estimation, focusing on the effects of employment opportunities, housing costs, moving expenses, and water shortage on their location decisions.
  - **Moment-Based Estimation:** Employed a generalized method of moments technique for the simultaneous estimation of labor and housing market equilibria, gaining insight into the associated welfare implications.
- **Data-Driven Insights:** Revealed that households' responses to droughts are influenced by the household head's age, race, and education levels. Additionally, counties experiencing fewer droughts demonstrated a 15% increase in appeal as preferred living locations, providing valuable insights for future policy design.

**Policy Analysis of Water-Related Building Moratoria** – R, Python & SQL May 2021 – present

- **Reduced-Form Analysis:** Led a causal inference project for the prompt evaluation of how water-related building moratoria had affected California's affordable housing crisis. This analysis directly responded to claims that these moratoria contributed to the rise in housing prices.
  - **Data Processing:** Collaborated with government stakeholders to refine a ~100 GB dataset, which comprises over 12 million housing properties, resulting in a 27% improvement in data coverage.
  - **Econometric Modeling:** Developed an event study difference-in-differences model with nearest neighbor matching, revealing that the negative effects of the moratoria began to emerge two years post-enactment.
- **Data-Driven Insights:** Discovered that building moratoria curtailed new home constructions by ~75% in affected areas. However, this moratoria-caused reduction had a negligible impact on housing prices, suggesting that the policies should not be blamed for the housing affordability crisis. These insights were effectively communicated to the California State Water Resources Control Board.

## INTERNSHIP EXPERIENCE

**Climate Change Analyst** Feb. 2019 – Nov. 2019  
Food and Agriculture Organization of the United Nations Rome, Italy

- **Predictive Modeling:** Built a predictive model to optimize tea farming practices in Kenya, achieving a ~6% reduction in greenhouse gas emissions without compromising tea yield or quality.
- **Data Integration:** Worked closely with national focal points to collect and synthesize statistics relevant to the Sustainable Development Goals, improving expertise in handling diverse dataset.
- **Multicultural Collaboration:** Led coordination efforts for global conferences, including side events at the 25th United Nations Climate Change Conference in Madrid, Spain, enhancing proficiency in cross-cultural teamwork.

## CONFERENCE PRESENTATIONS

- AERE Summer Conference; Cornell NE Workshop; Annual EPG Conference; WEAI Annual Conference.

## TECHNICAL SKILLS

- Programming: R, Python, MATLAB, Stata, SQL, and ArcGIS Pro.
- Econometrics: Causal inference, discrete choice modeling, and hypothesis testing.
- Machine learning: Supervised learning (linear regression, logistic regression, neural networks, decision trees), unsupervised learning (clustering, anomaly detection), recommender systems, and reinforcement learning.