

# Dingwei Guo

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## OBJECTIVE

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**Ph.D. candidate in Economics** with expertise in data-driven causal inference and quantitative analysis. Skilled in experimental design, complex data analysis, and causal identification. Experienced in **causal inference cases (natural experiments and randomized experiments)** and large-scale data engineering using **Python, SQL, and Stata**. Proficient in Python's data science and machine learning libraries including **pandas, NumPy, scikit-learn, XGBoost, LightGBM, TensorFlow, and statsmodels**. Strong communication and collaboration skills developed through teaching and interdisciplinary research.

## EDUCATION

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- **University of North Carolina at Chapel Hill** *July 2022 - May 2027 (expected)*  
*Ph.D. in Economics* Chapel Hill, US
- **University of Wisconsin - Madison** *August 2021 - May 2022*  
*M.S. in Economics* Madison, US
- **Xi'an Jiaotong University** *Sept 2017 - June 2021*  
*B.A. in Economics* Xi'an, China

## RESEARCH EXPERIENCE

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- **A Study on Health Provider Mergers and Mental Health Treatment** *Proposed and funded by Mission Health*  
*UNC Chapel Hill*
  - Access and manage large-scale patient-provider datasets within the healthcare network.
  - Apply diff-in-diff regression design to estimate the causal effect of hospital mergers and transitions from non-profit to for-profit on mental health treatment outcomes.
- **A Series of Evaluation on Public Policies with Machine Learning** *May 2023 - present*  
*UNC Chapel Hill*
  - Conducted four empirical evaluations of public policies in rural areas.
  - Applied a Python web-scraping and text-mining pipeline to obtain macro data and extract reform dates from government documents.
  - Integrated machine learning models for text classification and document clustering.
  - Applied propensity score matching and diff-in-diff models to quantify short-term and intergenerational impacts.
  - Estimated heterogeneous treatment effects using causal forest and meta-learner frameworks.
  - Exploited Lasso and XGBoost for variable selection and nonlinear trend modeling.
- **A Series of Studies on Demand-Side Management in Retail Electricity Market** *Sept 2019 - May 2021*  
*UW-Madison & Xi'an Jiaotong University*
  - Conducted two complementary studies on consumer acceptance of Direct Load Control (DLC) programs.
  - Implemented a contingent valuation survey to estimate consumers' willingness-to-accept.
  - Developed an online discrete choice experiment to elicit consumer preferences for DLC contract attributes.
  - Designed a randomized experiment with different money compensation and managed the telemetry data.
  - Applied gradient boosting and random forest models to predict consumers' acceptance and identify key behavioral determinants.
  - Used XGBoost and causal forest to uncover heterogeneous preference in consumers with various social norms.

## WORK EXPERIENCE

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- **UNC Chapel Hill** Sept 2026 - May 2027 (expected)  
*Research Assistant* Chapel Hill, US
  - Work together with Prof. Donna Gilleskie on the proposed projects of mental health treatment.
- **UNC Chapel Hill** Sept 2022 - May 2027  
*Teaching Assistant* Chapel Hill, US
  - Assisted one undergraduate-level course ranging from 90 to 800 students for each semester, including Principle of Economics, Introduction to Data Science and Econometrics, Intermediate Microeconomics, and Public Finance.
  - Prepared and led weekly recitation sections. Held office hour regularly to answer students' questions.
  - Supervised and graded homework and exams.

## SKILLS

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- **Programming:** Python (pandas, NumPy, scikit-learn, XGBoost, LightGBM, TensorFlow, and statsmodels), Stata, MySQL
- **Language:** Chinese (native), English (fluent)

## PUBLICATIONS AND WORKING PAPERS

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J=JOURNAL, W=WORKING PAPER

- [J.1] Yuan Zhao, Weihua Yu, Dingwei Guo, and Xiaoping He. Household Customers' Cost of Interruption: Survey Study on Summer Electricity Peak of Xi'an City. *Frontiers in Energy Research* 9 (2022): 802018. ([Link](#))
- [W.1] Dingwei Guo, Yuan Zhao, and Zihang Zhang. When Money Crowds Out Morals: A Study of Demand Side Management Participation. (Under review by *The Energy Journal*)
- [W.2] Dingwei Guo, Ruting Huang, Xiyan Li, and Yuan Zhao. Leave or Stay: Impacts of the Poverty Alleviation Resettlement Program in China. (Under review by *Journal of Development Studies*)
- [W.3] Dingwei Guo, Hanchen Li, and Yuan Zhao. Give Money or Give Job: Analysis of Industry-Based Poverty Alleviation. (Working in progress)
- [W.4] Jie Feng, Dingwei Guo, and Yuan Zhao. How Does Aid Spill Over? Evidence from Poor County Assistance (Working in progress)
- [W.5] Dingwei Guo. Unburdened Fields, Mobilized Women: Labor Market Responses to Agricultural Tax Reform and Intergenerational Consequences. (Working in progress)