

# Hamidreza Habibi

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## SUMMARY

- Ph.D. candidate specialized in Causal Inference, Health and Public Economics, seeking full-time research positions
- Six years of hands-on experience applying econometrics and ML algorithms to large datasets to answer real-world questions
- Strong communication and teamwork skills developed through a combination of teaching, faculty seminars, presentations, peer collaborating, and co-authored academic research

## TECHNICAL STRENGTHS

- **Causal Inference:** Experimentation (RCT, Hypothesis Testing, A/B Testing), Synthetic control, Difference-in-Differences, Matching, Instrumental Variables, Regression Discontinuity, Causal Forest
- **Programming:** R, SQL, Python, STATA, Microsoft Office, LaTeX

## EDUCATION

University of California, Santa Cruz  
Ph.D. Economics

Santa Cruz, CA  
June 2025 (expected)

- **Relevant Coursework:** Advanced Econometrics I-III, Machine Learning, Advanced Microeconomic Theory I-III

Illinois State University  
M.S. Mathematics and Economics

Normal, IL  
June 2019

University of Tehran  
B.S. Economics

Tehran, Iran  
June 2016

## RESEARCH PROJECTS & PUBLICATIONS

**Job Market Paper: Curbing Pharma Influence: The Effect of Marketing Restrictions on Physicians' Prescribing Behavior**

- Constructed several datasets linking 55 million industry payments to doctors' prescriptions record in Medicare Part D
- Using various causal inference strategies, I document the significant reductions in the volume of marketing activities, prescription volume, and drug expenditure to NJ physicians compared to the peers in neighboring states of NY and PA.
- Employed Causal Forest approach to explore heterogeneous treatment effects

**Quantifying Specific and Systemic Factors in the Black-White Wealth Gap in the United States**

with Rongchen Liu, Anirban Sanyal, Gonzalo Martin Respighi Grasso, and Nirvikar Singh

Forthcoming, *Journal of Race, Economics and Policy*. <https://dx.doi.org/10.2139/ssrn.3800592>

- Using the 2016 Survey of Consumer Finances and various decomposition approaches, the study finds that individual characteristics only partially explain the Black-White wealth gap, with quantile regressions indicating that race significantly influences wealth disparities beyond measurable factors.

**An equity-minded multi-dimensional framework for exploring the dynamics of sense of belonging in an introductory CS course** with Narges Norouzi, Anna Sher, and Carmen Robinson

Published in "Proceedings of ITiCSE 2023, VI, 2023." <https://doi.org/10.1145/3587102.3588780>

- Applied multivariate logistic regression models to 3 waves of institutional surveys with 440+ variables
- The results suggested that social perceptions persistently affect students' sense of belonging to CS and engineering courses

**Determinants and Prediction of Patients' Waiting Time in Emergency Departments**

- Implemented the Post-lasso algorithm to analyze a nationally representative survey of doctors and patients over 9 years
- Found that black people with public insurance wait 6 minutes more than white individuals with private insurance in ED

**Return and Volatility Spillovers across Western and MENA Countries** with Hassan Mohammadi

Published in "The North American Journal of Economics and Finance, 2022." <https://doi.org/10.1016/j.najef.2022.101642>

- Analyzed weekly data on returns and volatility over 12 years and variance decomposition methodology of Diebold and Yilmaz
- Found that 42.5% and 46.9% of variations in return and spillover indices across the fifteen markets are due to spillovers

**F-Derangements and Decomposing Bipartite Graphs into Paths** with Mike Plantholt and Benjamin Mussell

Published in the "Art of Applied and Discrete Mathematics, 2024." <https://doi.org/10.26493/2590-9770.1576.a47>

- Proved that under a fixed maximum number of pre-images for any item under  $f$ , the fraction of permutations that are  $f$ -derangements tend to  $1/e$  for large  $n$ , regardless of the choice of  $f$

**Classification and Prediction of Breast Cancer Diagnosis in Wisconsin Using Machine Learning**

- Trained an SVM and classified breast cancer diagnosis. The final accuracy score was 0.9586

**Predicting Bank of America's Stock Price Movements Using Machine Learning**

- Found that XGBoost outperforms other methods in predicting BA's stock price movements. Obtained AUC of 0.8644

## RELEVANT EMPLOYMENT

UCSC Institution for Research, Assessment, and Policy Studies  
Graduate Student Researcher

Santa Cruz, CA  
January 2022 - July 2022

- Extracted and analyzed institutional survey data with ~450 variables, conduct regression analysis and statistical modeling
- Wrote 15+ reports to influence the university's decision-making in coordination with different groups in the business

**University of California, Santa Cruz****Santa Cruz, CA***Instructor and Teaching Assistant in Causal Inference**March 2020 - present*

- Enhance academic success for 80+ students by holding sections and teaching a core upper-division course in causal inference
- Earned Best Teaching Assistant Award for exceptional skills and passion for students' success