

# ABDOLLAH FARHOODI

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## EMPLOYMENT

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**University of Toronto**

Assistant Professor, Department of Economics

*2020—present*

## EDUCATION

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**University of Illinois at Urbana-Champaign**

Ph.D. Economics, Advisor: Dan Bernhardt

*2014—2020*

**Sharif University of Technology**

M.Sc. Economics

*2012*

**University of Tehran**

B.Sc. Electrical Engineering (Control)

*2009*

## SUMMARY

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I am an applied microeconomist working on empirical IO, digital economics, and the spatial distribution of economic activities. I use big-data tools, structural demand estimation, and machine learning for prediction and causal inference to answer economic questions.

## SOFTWARE AND COMPUTER SKILLS

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Programming: R, Python, MATLAB, STATA, Mathematica, HTML

Causal ML: Double ML, Elastic-Net Synthetic Control, Generalized Random Forest, Deep-IV

Machine Learning: Shrinkage Methods, Random Forest, Bagging, Boosting, SVM, Neural Networks

Big-Data tools: SQL, MongoDB, Hadoop, Spark, Working with Databases

Econometrics: Structural Estimation, Discrete Choice Models, Maximum Simulated Likelihood, Method of Simulated Moments, Instrumental Variable, Propensity Score Matching, Synthetic Control, Difference-in-Difference, A/B Testing

Other: GitHub, Microsoft Office, L<sup>A</sup>T<sub>E</sub>X, Satellite Data, Web-scraping, Textual Analysis

## WORKING PAPERS

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**Democratizing the Opportunities: Who Benefits from the Airbnb Market?** (under review)

- Extend the state-of-the-art discrete choice models to account for heterogeneities in Airbnb
- Estimate a novel structural model to find consumer and producer surpluses with daily variations
- Simulate an agent-based model of the Airbnb market to study the causal effects of different regulation policies

**Does Airbnb Reduce Matching Frictions in the Housing Market?** (with Nazanin Khazra and Peter Christensen, under review)

- Introduce reduction in matching frictions as a new mechanism through which P2P markets may affect the related markets

- Calibrate our search and matching model using Airbnb and housing data for the entire US
- Apply causal machine learning to study the heterogeneity in the market

**Households Mobility and Housing Affordability: Evidence from the Universe of Households' Migration in the US** (with Nathaniel Baum-Snow and Lu Han)

- Use the big data on the last 10 movements of all American households (~3 Billion observations)
- Create a dynamic discrete choice model of households' location choices
- Estimate the neighborhood-level moving costs of renters and owners
- Run the counter-factual analysis of changes in moving costs and housing supply policies

**Introducing a Micro-Founded Index of Consumption Welfare: A Big Data Approach**

- Apply machine learning to introduce a novel index of welfare based on households' asset ownership
- Use the household-level micro-date to evaluate the index

**RELEVANT EXPERIENCE**

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**International Monetary Fund**

- Fund Internship Program *Summer 2018*

**University of Illinois**

- Graduate Research Assistant *2015—2018*
- Big-Data in Environmental Economics and Policy Research Group *2018—2020*

**TEACHING & MANAGEMENT EXPERIENCE**

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**Urban Economics** *University of Toronto, 2021—2022*

**Big Data Tools for Economists** *University of Toronto, 2020*

- Topics: Coding with Python, Git, Data Visualization and Mapping, Satellite Data, Web-scraping, Textual Analysis, Machine Learning

**Introduction to Microeconomics** *University of Toronto, 2020*

- More than 1800 students & 30 Teaching Assistants

**Applied Machine Learning in Economics** *University of Illinois, 2019—2020*

- Topics: Statistical Learning with R, Shrinkage Methods, Random Forest, Bagging, Boosting, SVM, Neural Networks, Causal Inference with ML
- Outstanding rating (top 5 percent) in the “List of Teachers Ranked as Excellent by Their Students”

**Teaching Assistant:**

- Introduction to Microeconomics University of Illinois, 2016—2018
- Intermediate Microeconomics University of Illinois, 2014—2015
- Game Theory Sharif University of Technology, 2012
- Econometrics I Sharif University of Technology, 2010, 2011
- Microeconomics II Sharif University of Technology, 2010

**FELLOWSHIP AND AWARDS**

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Robert Willis Harbeson Memorial Dissertation Award	May 2019
University of Illinois Summer Research Fellowship	Summer 2018
University of Illinois Summer Research Fellowship	Summer 2015
University of Illinois Economics Department Fellowship	Fall, Spring 2014
Awarded in the “List of Teachers Ranked as Excellent by their Students”	2016–2020 (7 Semesters)
University of Illinois Graduate Teaching Certificate	May 2019