Victor Quintas-Martinez

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EDUCATION

PhD in Economics and Statistics, Massachusetts Institute of Technology	2020-
Dissertation Title: "Machine Learning for Causal Estimation." Advisors: V. Chernozhukov and W. Newey.	
MSc in Econometrics and Mathematical Economics, London School of Economics. Rank: 1/36.	2018-19
BSc in Economics, Universitat Pompeu Fabra (Barcelona, Spain). Rank: 1/175.	2014-18
Publications	

PUBLICATIONS

Multiply-Robust Causal Change Attribution, with T. Bahadori, E. Santiago, J. Mu, D. Janzing and D. Heckerman. ICML 2024. [paper] [code]

Developed robust ML-based methodology for disentangling and quantifying the contributions of multiple causes.

RieszNet and ForestRiesz: Automatic Debiased Machine Learning with Neural Nets and Random Forests, with V. Chernozhukov, W. Newey and V. Syrgkanis. Long presentation at ICML 2022 (2% acceptance rate). [paper] [code]

- Proposed and evaluated two tools (RieszNet and ForestRiesz) to estimate causal effects using auto-DML.
- Our algorithms beat the state of the art in ATE estimation and inference, for both binary and continuous treatments.

WORKING PAPERS

Automatic Debiased Machine Learning via Riesz Regression (2024), with V. Chernozhukov, W. Newey and V. Syrgkanis. [paper]

Gender Gaps across the Spectrum of Development: Local Talent and Firm Productivity (2024), with N. Ashraf, O. Bandiera and V. Minni. [paper] Press coverage in the Financial Times.

Finite-Sample Guarantees for High-Dimensional Double/Debiased Machine Learning (2022). [paper]

Other research in progress: Ridge Density Estimation for Panel Correlated Random Effects, DML for Distributional Treatment Effects, Weighted Average Causal Effects with Continuous Treatment and Monotone Instrument.

WORK EXPERIENCE

Research Science Intern Amazon, Summer 2023

- Created a robust ML-based methodology for causal change attribution.
- Applied this methodology in collaboration with workplace safety engineers to understand what factors contribute to reducing injury rates in fulfillment centers.
- Built a Python package and integrated it into the <u>DoWhy</u> library for causal inference.

Teaching Assistant for Profs. A. Abadie, J. Angrist, V. Chernozhukov, T. Kaji, W. Newey

MIT, 2022-24

- Served as TA for several graduate and undergraduate Econometrics courses. Average rating: 6.77/7.
- Developed and taught recitations; helped students with coding, math, and conceptual issues in office hours; provided feedback for problem sets, empirical projects and exams.
- Created and led a course on Julia programming, replicability, version control with Git, and numerical methods. [course]

Research Assistant for Profs. O. Bandiera and R. Burgess

LSE, 2019-20

- Worked on a variety of projects related to Development, Environmental, Labor, and Organizational Economics.
- Was responsible for data collection, management and analysis, writing theory models, literature review.
- Designed and evaluated the coding assessment for hiring future RAs.

Teaching Assistant for Profs. T. Besley, F. Cavalli, D. Petropoulou, R. Razin, R. Reis, K. Sheedy

LSE, 2018-20

• Served as TA for undergraduate introductory and intermediate Microeconomics and Macroeconomics courses.

SKILLS

Python (experience with scikit-learn and torch), R, Stata, Julia, Git.

FELLOWSHIPS AND AWARDS

Jerry Hausman Fellowship 2023-24 (1 or 2 MIT PhD candidates working in Econometrics), MIT Presidential Fellowship 2020-21 (10% of MIT entering graduate students), Ely Devons Prize for Outstanding Performance 2019 (awarded to the MSc EME valedictorian at LSE), Premi Extraordinari de Fi d'Estudis 2018 (awarded to the BSc Economics valedictorian at UPF).

PROFESSIONAL SERVICE

Referee for Econometrica (x4), Journal of Econometrics (x1), Young Economist Symposium (2022).