Manuel A. Quintero Coronel

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Personal

I am a highly self-motivated student with a strong background in mathematics and statistics, with over three years working as a research assistant mainly with time series and causal inference using several statistical software. I am also interested in teaching: I have taught three courses at the graduate and undergraduate levels.

Fields of interest

- Mathematical Statistics - Causal Inference, Machine Learning, and High-Dimensional Data Analysis.
- Pure Mathematics - Functional Analysis and Probability.
- Mathematical Economics - Applied Microeconometrics.

Education

University of Cambridge, Cambridge, UK — 2022 - 2023
MASt in Mathematical Statistics.
Areas of study: Advanced Probability, Modern Statistical Methods, Topics in Statistical Theory,
Causal Inference, Functional Data Analysis, Statistical Learning in Practice,
Concentration Inequalities, and Functional Analysis.

Instituto Tecnologico Autonomo de Mexico, CDMX, Mexico — 2015 - 2020
Bachelor of Science in Applied Mathematics (Honours). GPA: 9.49 / 10.0 (Top 2.64%)

Instituto Tecnologico Autonomo de Mexico, CDMX, Mexico — 2015 - 2020
Bachelor of Arts in Economics (Honours). GPA: 9.28 / 10.0 (Top 4.49%)

High School Diploma, Canada and Mexico — 2014-2015

Work Experience

Research Assistant to Ph.D. Horacio Larreguy (Harvard / ITAM) — Mar 2021-Present

- Co-authored "Can We Shield Citizens Against Misinformation Through Digital Literacy Training and Fact-checks?" with Antonella Bandiera (ITAM), John Marshall, and Horacio Larreguy.
- Conducted the analysis of the paper: "Accountability under Polarization" for Jose Ramon Enriquez (Harvard), Horacio Larreguy, John Marshall (Columbia), and Alberto Simpser (ITAM).
- Performed randomization assignments and analyzed survey responses for three projects. Conducted covariate balance analysis, average treatment effects, heterogeneous effects, sample reweights to mimic national population and inverse covariance weighting. Implemented text-analysis techniques, Lasso models, matching algorithms on the propensity score, event studies, Lee bounds, and multilevel regression and post-stratification.

Research Assistant to Fotini Christia (MIT - director of MIT Sociotechnical Systems Research Center (SSRC)) — Mar 2021 - Aug 2022

- Co-authored "Can Media Campaigns Empower Women Facing Gender-Based Violence amid COVID-19?" with Fotini Christia, Elizabeth Parker-Magyar (MIT), and Horacio Larreguy.
- Performed the technical part of the project. Analyzed survey responses, conducted covariate balance analysis, treatment and heterogeneous effects through summary indexes, and reweighted sample for national representability. Furthermore, implemented and ran Bayes factors, power tests, cross-validation, and Lasso models for variable selection.

Graduate/Undergraduate Teacher Assistant (ITAM) — Jan 2021 - Dec 2021
Professors: Horacio Larreguy and Carlos Urrutia
Courses: Dynamic Macroeconomics I (Master of Economic Theory), Applied Research I (Masters of Applied Economics), and Economic Research Seminar (Economics department).

- Taught laboratories in MATLAB to put class theory into practice: how to solve the Recursive Neoclassical Growth Model, DSGE models, and Bellman equations including models with heterogeneous agents.

- Taught experimental methods such as generalized Difference-in-difference, Instrumental Variables, and Regression Discontinuity using tutorials in R, Stata, and LaTeX.

Research Assistant (CIE-ITAM) June 2020 - Dec 2020
Supervisor: Ignacio Lobato (ITAM)

- Wrote MATLAB code to identify non-invertible and non-causal ARMA models with higher moments.

Research Assistant (CIDE - INEGI - ITAM) June 2019 - Feb 2020
Supervisor: Victor Guerrero (ITAM)

- Wrote a technical chapter on business cycle methodology and participated in the first international congress of business cycle dating committees from around the world.

- As a result of our work, INEGI formalized the creation of a business cycle dating committee for the Mexican economy in February 2021.

Tutorship Program (ITAM) Jan 2019 - June 2020
Member of the minor faculty of Statistics and Mathematics.

- Answered inquiries and advised on statistics and mathematics courses to any student.

TECHNICAL SKILLS

Licenses and certifications

Data Science: R Basics by HarvardX (certificate)	June 2019
Data Science: Machine Learning by HarvardX (certificate)	July 2022
High-Dimensional Data Analysis by HarvardX (certificate)	July 2022
Using Python for Research by HarvardX (certificate)	Aug 2022
Python for Data Science and Machine Learning Bootcamp (certificate)	Aug 2022
Neural Networks and Deep Learning by DeepLearning.AI (certificate)	Sept 2022
Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization by DeepLearning.AI (certificate)	Sept 2022

Programming level

R / RStudio	●●●●●
MATLAB	●●●●●
Python	●●●●◐
Stata	●●●●◐
Java	●●●◐○
EViews	●●●◐○
C#	●●●○○

HONORS AND AWARDS

- Research Award: Honorable mention in Applied Mathematics (July 2022).

- Research Award: Honorable mention in Economics (Jun 2022).

- Sage Fellowship, Cornell University - Rejected (Mar 2022).

- Undergraduate Student Scholarships at ITAM (Aug 2015 - Aug 2018).

- Finalist at MIT Delta V – Epic lab (2017).

- Business School Excellence Award – ITAM (Aug 2015 – Dec 2016).

PUBLICATIONS

- Bandiera Antonella, Horacio L. John M. Daniela P. and Manuel Q. 2022. "Can We Shield Citizens Against Misinformation Through Digital Literacy Training and Fact-checks?" *Working paper.*

- Christia Fotini, Horacio L., Eizabeth P., and Manuel Q. 2022. "Can Media Campaigns Empower Women Facing Gender-Based Violence amid COVID-19?" *Working paper.*

- **Associate Researcher**: Antón A. et al. 2020. "Propuesta para crear un comité de fechado de los ciclos económicos en México". INEGI. México. URL: http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/promo/GTDCFC_2020.pdf.