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 in causal estimations 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 - Machine Learning, Deep Learning, and Causal Inference.
- Mathematical Economics - Game Theory, DSGE models, and Microeconometrics.
- Pure Mathematics - Functional Analysis, Partial Differential Equations, and Real Analysis.

Education

Cambridge University, Cambridge, UK   2022 - Present
MASt in Mathematical Statistics.

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 from Canada and Mexico   2015

Work Experience

Research Assistant (MIT)   Mar 2021-Present
Supervisor: Fotini Christia, director of MIT Sociotechnical Systems Research Center (SSRC).

- Co-author of the paper: "Can Media Campaigns Empower Women Facing Gender-Based Violence amid COVID-19?" with Fotini Christia, Elizabeth Parker-Magyar (MIT), and Horacio Larreguy.
- Analyzed survey responses and conducted balance analysis, ran treatment and heterogeneous effects, made weights to mimic national samples, created inverse covariance indexes and z-scores, power-tests, Bayes-factors, ran LASSO models, and more.

Research Assistant (Harvard, ITAM)   Mar 2021-Present
Supervisor: 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).
- Co-author of the paper "Can We Shield Citizens Against Misinformation Through Digital Literacy Training and Fact-checks?" with Antonella Bandiera (ITAM), John Marshall, and Horacio Larreguy.
- Analyzed surveys responses for several projects: created balances tables, average treatment effects, heterogeneous effects, inverse covariance indexes, event studies, used quasi-experimental methods, implemented text-analysis techniques, machine learning techniques, matching statistical techniques, inverse propensity score weighting, multilevel Regression, and Post-stratification, and constructed Lee Bounds.

Graduate/Undergraduate Teacher Assistant (ITAM)   Aug 2021 - Dec 2021
Professor: Horacio Larreguy (ITAM)
Courses: Applied Research I (Masters of Applied Economics) and Economic Research Seminar (Economics department)

- I created tutorials for R, Stata, and LaTeX.
- Taught experimental methods such as generalized Difference-in-difference, Instrumental Variables, and Regression Discontinuity.
- Supervised the research project of all students.
- Held office hours to answer specific questions about implementing quasi-experimental methods in R and Stata, as well as exporting the results to LaTeX in a presentable manner.

Graduate Teacher Assistant (ITAM)
Professor: Carlos Urrutia (ITAM)
Course: Dynamic Macroeconomics I (Master of Economic Theory)

Jan 2021 - May 2021

- 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.

Research Assistant (CIE-ITAM)
Supervisor: Ignacio Lobato (ITAM)

June 2020 - Dec 2020

- Assisted the professor in implementing his paper on non-invertible and non-causal ARMA models in MATLAB. I also assisted in grading the undergraduate course of Applied Macroeconometrics.

Research Assistant (CIDE-INEGI-ITAM)
Supervisor: Victor Guerrero (ITAM)

June 2019 - Feb 2020

- As a result of our work, INEGI formalized the creation of a business cycle dating committee for the Mexican economy in February 2021.
- I wrote a technical chapter on business cycle methodology and participated in the first international congress of business cycle dating committees from around the world.

Tutorship Program (ITAM)
Member of the minor faculty of Statistics and Mathematics.

Jan 2019 - June 2020

- Answered questions and gave advice on statistics and mathematics to any student at ITAM.
- Supervised departmental examinations.

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).
- High School Valedictorian – Instituto Chapultepec (2015).

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`.