





# MANUEL A. QUINTERO CORONEL

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## EDUCATION

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 <b>Massachusetts Institute of Technology (MIT)</b> P.h.D. Social and Engineering Systems Doctoral Student at the Institute for Data Systems and Society (IDSS).	2023 - 2028
 <b>University of Cambridge</b> Master's degree in Mathematics Concentration: Optimization, Probability, and Statistics	2022 - 2023
 <b>Instituto Tecnológico Autónomo de México (ITAM)</b> Bachelor of Science in Applied Mathematics	2015 - 2020
 <b>Instituto Tecnológico Autónomo de México (ITAM)</b> Bachelor of Arts in Economics	2015 - 2020

## WORK EXPERIENCE

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<b>Research Assistant to Ph.D. Horacio Larreguy (Harvard / ITAM)</b>	Mar 2021 - Jan 2023
<ul style="list-style-type: none"><li>Analyzed diverse datasets, including experimental surveys, census data, and electoral data, resulting in data-driven insights that informed decision-making.</li><li>Conducted spatial analysis and geospatial visualization using tools such as QGIS, ArcGIS, and the Google Maps API, enhancing data visualization and facilitating location-based insights.</li><li>Applied text and sentiment analysis techniques for data-driven analysis.</li><li>Implemented Machine Learning techniques to optimize processes and outcomes.</li><li>Developed matching algorithms for improved data accuracy and estimated causal parameters.</li></ul>	
<b>Research Assistant to Ph.D. Fotini Christia (Director of MIT's SSRC)</b>	Mar 2021 - Aug 2022
<ul style="list-style-type: none"><li>Collaborated in the statistical analysis a co-authored paper in Nature Human Behavior (see).</li><li>Utilized cross-validation and implemented L1-penalization for variable selection.</li><li>Constructed summary indexes: Z-scores and inverse covariate weighting.</li><li>Ensured national representability by working with national samples and reweighting experimental samples.</li></ul>	
<b>Graduate Teacher Assistant (ITAM)</b>	Jan 2021 - Dec 2021
<ul style="list-style-type: none"><li>Courses: Applied Research, Dynamic Macroeconomics, and Economic Research Seminar.</li><li>Authored and published comprehensive tutorials in MATLAB, R, Python, Stata, and L<sup>A</sup>T<sub>E</sub>X, which contributed to improved learning outcomes in data wrangling and statistical analysis.</li></ul>	
<b>Research Assistant (Center for Economic Research, ITAM)</b>	June 2020 - Dec 2020
<ul style="list-style-type: none"><li>Detected non-fundamental ARMA models in financial time series, including DJI and NASDAQ components.</li><li>Developed MATLAB code to identify non-fundamental ARMA models with higher statistical moments.</li></ul>	
<b>Associate Researcher (National Institute of Statistics and Geography, INEGI)</b>	June 2019 - Feb 2020
<ul style="list-style-type: none"><li>Co-authored a technical chapter on business cycles using macroeconomic time series data.</li></ul>	

## TECHNICAL SKILLS

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<b>Licenses and certifications</b>	
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 Languages:

(Advanced): R, Python, Stata, MATLAB, and L<sup>A</sup>T<sub>E</sub>X. (Intermediate): Java, EViews, and C#. (Beginner): HTML, JavaScript, and C++.

## PUBLICATIONS

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- Christia, F., Larreguy, H., Parker-Magyar, E. et al. Empowering women facing gender-based violence amid COVID-19 through media campaigns. *Nat Hum Behav* (2023). <https://doi.org/10.1038/s41562-023-01665-y>.
- 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*.
- **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](http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/promo/GTDCFC_2020.pdf).

## HONORS AND AWARDS

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- Presidential Graduate Fellowship, MIT (23-24).
- Research Award: Honorable mention in Applied Mathematics (July 2022).
- Research Award: Honorable mention in Economics (Jun 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).