DANIEL JARAMILLO CALDERON

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EDUCATION

Ph.D. in Economics, The University of British Columbia *Sept 2019 - May 2025 (expected)*
· *Coursework:* Machine Learning and Data Mining, Computational Economics with Data Science, Applied Econometrics.
M.A. in Economics, The University of British Columbia *Sept 2017 - Aug 2018*
B.Sc. in Economics, Pontificia Universidad Católica del Ecuador *Sept 2011 - May 2015*

WORK EXPERIENCE

Instructor of Record, UBC - Vancouver, BC Jul 2024 - Aug 2024

· Developed and taught "*Working with Big Data*," an introductory Data Science course covering programming fundamentals, version control, data wrangling, visualization, regression, and classification. The course trained students to use popular Python packages such as pandas, NumPy, scikit-learn, Matplotlib, and seaborn.

Economic Consultant, Inter-American Development Bank - Washington, DC Sep 2018 - Aug 2019

· Estimated the effect of crime on firms' size using a Diff-in-Diff model, finding an 8% reduction for affected firms.
· Applied clustering techniques to generate crime hotspots, achieving 82% precision on a dataset of 500,000+ incidents.
· Designed and executed experiments (A/B testing) to estimate the impact of government audits on firms' revenues.

Economic Advisor, National Secretary of Development - Quito, Ecuador Jun 2016 - Jun 2017

· Built a statistical model to forecast poverty with 92% accuracy using household survey data (1M+ yearly observations).
· Helped manage a $10M fund for pre-investment infrastructure, focusing on investment evaluation and project monitoring.

Market Analyst, Superintendence of Economic Competition - Quito, Ecuador Nov 2014 - May 2016

· Collected and analyzed over 1 million firm-level observations to define relevant markets and estimate market power in the retail and telecommunications sectors.
· Led meetings with lawyers and industry leaders to assess the effectiveness of mathematical models and its predictions.

SELECTED RESEARCH PROJECTS

The Criminogenic Effects of Releasing Offenders (Job Market Paper)

· Employed a matched Diff-in-Diff model on a dataset of 20M+ observations to study the spillover effects of offender releases, documenting a release-to-arrest elasticity of 2.2.
· Fine-tuned a large language model (LLM) to extract information from 2M+ unstructured documents, achieving 98.5% accuracy on a labeled test sample.
· Applied a KNN algorithm to match neighborhoods with and without released offenders based on pre-treatment characteristics, achieving balance at the 1% significance level.

Religious Violence in Africa, joint with *Siwan Anderson* and *Sara Benetti*

· Classified 300,000+ conflict events based on textual descriptions. Trained and tested SVM, Logit, and Neural Network models on a random sample, achieving 98% accuracy with the preferred algorithm.

SKILLS

Programming	Python, SQL, Julia, git
Statistical Packages	R, Stata
ML and Data Science Libraries	NumPy, Pandas, Polars, scikit-learn, and Huggingface
Geospatial analysis	GeoPandas, GDAL, and ArcPy
Markup	LaTeX, Markdown