

Juan C. Yamin

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Economist and Brown Economics Ph.D. candidate (expected May 2027) specializing in applied econometrics, experimentation, and causal inference. I build implementable methods for downstream product, operations, and policy decisions, with experience owning causal analyses from question formulation and data acquisition through Python/SQL implementation and leadership recommendations.

EXPERIENCE

Amazon — Economist Intern, Delivery Experience, Bellevue, WA May–Aug 2025

- Owned the analysis from causal-question formulation and data acquisition through empirical strategy, Python/SQL implementation, quantification, and leadership readout for a nationwide U.S. delivery-speed program.
- Estimated direct effects and geographic spillovers using difference-in-differences and shift-share designs; combined estimates to quantify the program's total effect on customer delivery experience and translate results into specific recommendations for economics and program leadership.
- Received a full-time return offer.

Brown University — Research Assistant to Prof. Soonwoo Kwon Jun 2023–present

- Simulation studies and empirical applications for research on shrinkage estimation of fixed effects, regression-discontinuity inference, and bias-aware inference in regularized regression.

Universidad de los Andes — Research Assistant, Bogotá, Colombia 2017–2021

- Coordinated multi-year data collection, digitization, replication, and empirical analysis across development and political-economy projects, including RA work on Acemoglu, Fergusson, and Johnson's *Review of Economic Studies* paper on population growth and conflict.
- Coauthored research conditionally accepted at the *American Political Science Review*, using close-election regression discontinuity and Colombian administrative data to study partisan alignment, ghost enrollment, and corruption in public education transfers.

SELECTED RESEARCH

Experiment design for small ramp-ups — *When and How to Pilot* (solo; [arXiv:2607.16982](https://arxiv.org/abs/2607.16982))

- Closed-form rule for setting the main-wave traffic split after a small ramp-up: moves from an even split toward Neyman allocation only as far as the pilot's evidence has earned, and reports a finite-sample certificate bounding what the move can cost.
- Covers A/B/n tests with shared control, stratified splits across user segments or markets, proxy outcomes with delayed primary metrics, and pilot sizing; calibrated to Upworthy headline tests and Criteo's 13.9M-user ad-experiment archive.
- Avoids feasible Neyman's severe small-ramp-up losses; in the Criteo calibration, captures about 90% of the attainable precision gain by 4,000-user ramp-ups.

Allocating scarce resources from imperfect estimates — *Poverty Targeting with Imperfect Information* (solo; [arXiv:2506.18188](https://arxiv.org/abs/2506.18188))

- Studies how to allocate a fixed antipoverty budget when decisions must use estimates rather than direct observations; proves the plug-in rule that treats estimates as truth is inadmissible and builds a nonparametric empirical Bayes rule.
- In simulations on household surveys from nine African countries, reaches nearly 80% more of the target population than plug-in ranking (45.6 vs. 25.5 per 1,000) and outperforms plug-in OLS and machine-learning benchmarks.

SOFTWARE

cmrdesign — R package and Python alpha (PyPI, [R-universe](#); MIT). Parallel API with shared JSON fixtures, independent numerical validation, GitHub Actions CI, and [documentation](#).

EDUCATION

Brown University, Ph.D. in Economics (M.A. 2022) expected May 2027

Universidad de los Andes, M.Sc. in Economics (2019); B.Sc. in Economics (2017)

SKILLS AND ADDITIONAL

Programming: Python, SQL, R, Stata, Git & GitHub Actions, MATLAB

Communication: TA for Brown's Ph.D. applied-econometrics sequence; overall evaluations 4.92/5.00 and 4.90/5.00 (dept. averages 4.53, 4.52)

Languages: Spanish (native), English (fluent), French (fluent)

Work status: Colombian citizen; eligible for 3 years of U.S. work authorization (F-1 STEM OPT); future sponsorship required