Diego Escobar Salce, Ph.D.

diego.escobar.salce@gmail.com • (312) 678-5684
LinkedIn • Research Website • Chicago, IL, U.S.

Economics | Data Science | Causal Inference

Economist and Data Scientist with extensive experience designing, executing, and interpreting data-intensive research projects. Expertise in deploying experimental and observational methods for program evaluation to provide data-driven recommendations, leveraging machine learning/artificial intelligence methods for forecasting and pattern recognition.

Education

Ph.D. in Public Policy (Applied Microeconomics)
The University of Chicago, U.S., Jun 2023. GPA: 3.6.
Fields: Econometrics (Econ. Dept.), Labor Economics, Education.
Advisors/References: Steven Durlauf, Marianne Bertrand, Dan Black.

M.S. in Computational Analysis and Public Policy (MSCAPP)
The University of Chicago, U.S., Jun 2023. GPA: 3.6.

M.A. in Economics
Concentration: Financial Economics
Pontifical Catholic University of Chile, Santiago, Chile, Jun 2014
(Ranked #1 in LATAM by Times & QS).
GPA: 3.8. Cohort ranking: 4/33. Magna cum laude. Thesis maximum honors.

B.A. in Economics + Business
Pontifical Catholic University of Chile (PUC Chile), Santiago, Chile, Jun 2013.
GPA: 3.7. Cohort ranking: 22/260. Magna cum laude.

Technical Skills

Languages: Python, R, SQL, Java, Matlab, Stata.

Platforms: Scikit-learn, Pandas, SciPy, PySpark, AWS S3/EC2, Git, PyTorch, Tensorflow, Keras, Tableau.

Statistical Methods: Causal Inference Design (e.g., Randomization, RDD, IV, Diff-in-Diff, Panel Data Analysis, Matching, Synthetic Control), Time-Series Modeling, Structural Modeling.

Machine Learning: Logistic, Linear, Ridge, and Lasso Regressions, K-means Clustering, K-NN, SVMs, Anomaly Detection, PCA, Boosting, Random Forests, Directed Acyclic Graphs, Conditional Random Fields (CRF), Hidden Markov Model (HMM).

Deep Learning: Convolutional Neural Networks (CNN), Recurrent Neural Networks, Autoencoders.

Professional Experience

Doctoral Researcher — 2017 – 2023
The University of Chicago — Chicago, IL

Led projects and produced and interpreted novel research projects, from design and data collection to analysis, visualizations, and producing compelling results storytelling.

- Studied effects of a size-dependent policy increasing costs of hiring women. Estimated firms' reaction to circumvent the regulation and substitute females for other production factors (revisions requested at the *Journal of Labor Economics*).
- Measured causal effects of screening/selection practices by voucher/charter schools on students' outcomes, explaining up to 40 percent of the achievement gap.
- Developed a new methodology to measure the causal effects of peer-group composition through classroom-level randomization and simulations in JAVA.
- Constructed dataset on political preferences of U.S. college faculty by web scraping and matching to large administrative data. Used random forests and deep/transfer learning to improve classification from binary measurements to ideology intensity.
- Showcased strong communication skills as a teaching assistant in 16 Econometrics, Machine Learning, and Economics courses (8 Ph.D.-level), adeptly delivering complex concepts to multicultural audiences with 30 to 80 students.
- Demonstrated leadership by guiding group work sessions for Chicago Booth's Executive MBA students in London and Hong Kong across 6 courses, receiving bonuses for outstanding student reviews (up to 4.9 out of 5).
- Led LGBTQ student organization and Ph.D. Social Committee for community building.

Research Associate — 2015 – 2017
J-PAL (Research Center based in MIT) — Santiago, Chile

Steered end-to-end functions to conduct experimental evaluations (A/B Testing - Randomized Controlled Trials/RCT) evaluating behavioral economics interventions to improve programs' outcomes as a consultant to government offices and NGOs.

- Organized projects timeline and deliverables for grant-makers and partners while simultaneously collaborating with diverse research teams across countries.
- Prepared reports for technical and non-technical partners such as 3ie, IDB, the Chilean Ministries of Education, the Chilean Pensions Supervisor, and NGOs.
- Implemented analysis of a nationwide information delivery initiative on educational choices, reaching 250,000 students. Applied varying treatment intensities by county to identify spillover effects, such as displacement by better-informed families.
- Assessed micro-entrepreneurship training initiatives, discovering a cost-effective intervention with comparable business outcomes, reducing training time expenses.
- Investigated impacts of personalized versus generic information on individual retirement accounts, finding large heterogeneity depending on individuals' priors.

Graduate Research Assistant (Full Time) — 2014 – 2015
Economics Department, PUC Chile, Santiago, Chile

Evaluated economic policies using observational methods such as instrumental variables, RDD, panel data, and demand estimation on simultaneous projects.

- Explored labor force responses to government regulations through MATLAB-based model calibrations and simulations, securing research grants.
- Examined and georeferenced plant-level data based on census images using GIS.