Nicolás Suárez Chavarría

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Education

2019 - Present **Stanford University**, ***Ph.D. Candidate in Economics***

2019 - 2021 **Stanford University**, ***M.A. in Economics***

2017 - 2018 **University of Chile**, ***M.Sc. in Economics***, Graduated with the highest honors

2012 - 2016 **University of Chile**, ***B.Sc. in Economics***, Graduated with the highest honors

Published Papers

2019 **Inequality in social capital in Chile: Assessing the importance of network size and contacts' occupational prestige on status attainment process**, *With Dante Contreras, Juan Díaz and Gabriel Otero*, *Social Networks*, Volume 58, July 2019, pages 59-77

Working Papers

2024 **A New Perspective on Spatial Heterogeneity in African Development (JMP)**, *With Pascaline Dupas and Zhongyi Tang*

2021 **Classroom composition and network effects: Evidence from a college special admission program in Chile**

2018 **The impact of commuting time over educational achievement: A machine learning approach**, *With Dante Contreras, Daniel Hojman, Patricio Rodríguez and Manuel Matas*, Working document number 472, Department of Economics, University of Chile

Work in progress and projects

2024 **Non-linear effects of air pollution on health outcomes: evidence from Mexico City**, *With Bridget Hoffmann and Juan Pablo Rud*

2022 **Predicting asset ownership in Africa using satellite imagery**, *With Othman Bensouda and Edoardo Yin*, Stanford CS229 class project, Code available here

2021 **Optimized Regression Discontinuity application: the effect of national institutions over local development**, Code available here

2021 **Predicting Ground-Level Ozone Concentration from Urban Satellite and Street-Level Imagery using Multimodal CNN**, *With Andrea Vallebueno and Nina Prakash*, Stanford CS230 class project, selected as an outstanding project for the winter 2021 quarter, Code available here

2021 **Tutorial: Landsat-8 image download and visualization using Google Earth Engine and Python**, *Code available here*

Professional and Research Experience

June 2024- August 2024 **PhD Intern**, NERA Economic Consulting, San Francisco, CA

- Worked within the Antitrust and Competition Practice on class participation and labor cases.
- Helped with expert reports, summarized legal documents, formulated econometric strategies, and managed junior researchers.

June 2023- August 2023 **Economic and Geospatial Senior Analyst Consultant**, *Consultant for Bridget Hoffmann*, Inter-American Development Bank

- Produced spatial dataset of pollution in Mexico City, efficiently managing a dataset containing more than 170 million observations of hourly pollution over a span of 30 years.
- Merged pollution data with mortality, hospitalizations and urgent care visits data.
- Implemented Instrumental Variables design to investigate the causal effect of air pollution over respiratory health outcomes.

June 2020- August 2023 **Graduate Research Assistant**, *Prof. Pascaline Dupas*, Stanford University

- Used satellite imagery and Convolutional Neural Networks to make infrastructure access predictions for Africa.
- Built a gridded map of Africa with pixel level predictions of access to infrastructure, population density measures, nighttime lights, and other development outcomes.
- Estimated a Spatial Discontinuity Regression model to study the causal impact of national and pre-colonial institutions over local development levels in Africa.
- Generate data visualizations, maps, and tables for our predictions and results.

July 2018- August 2019 **Instructor**, *Department of Economics*, University of Chile
- Taught undergraduate-level classes.
- Used web-scrapping techniques to build infrastructure that generated automatic productivity reports of faculty.

March 2017- Dec. 2018 **Graduate Research Assistant**, *Prof. Dante Contreras*, University of Chile
- Used machine learning techniques and the Google Maps API to predict commuting time of middle-school students in Santiago, Chile.
- Estimated causal inference models to study the impact of commuting time over students' achievement.

Dec. 2015- April 2016 **Junior Economist**, *Chile 21 Foundation*
- Compiled and analyzed data on Chilean dock workers to study how their contracts generated gaps in job quality among them.

Dec. 2014 - Jan. 2016 **Research Assistant**, *Prof. Valentina Paredes*, University of Chile
- Built datasets and estimated econometric models to study the impact of the gender composition of a classroom over the decision of women to major in a STEM-related discipline.

Relevant coursework

Stanford Computer Science, Machine Learning (CS229), Deep Learning (CS230)

Stanford Economics, Intermediate Econometrics I, II and III, Quantitative Methods for Empirical Research, Machine Learning and Causal Inference

University of Chile Economics, Introduction to Statistics, Statistics Theory, Quantitative Methods I, II, III and IV, Distributive Analysis of Micro Data using Stata, Topics in Applied Economics, Graduate Econometrics I, II, and III, Industrial Organization, Microeconometrics

Teaching assistant experience

Graduate level, Microeconomics I, Microeconomics II, Macroeconomics II

Undergraduate level, Principles of Economics, Basic English, Intermediate English, Political Economy, Quantitative Methods

Conferences

2023 **2023 Stata conference**, Stanford University, Generalized 2SLS procedure for Stata

Honors and Awards

2019 **Best Graduate in Economics**, School of Economics and Business, University of Chile. Awarded to the M.Sc. student with the highest GPA

2018 **School Spirit Award**, School of Economics and Business, University of Chile. Award handed by the Alumni association to one student with an outstanding academic performance, who also worked in extracurricular activities that had a positive impact over the community

2015-2017 **Honor Board**, School of Economics and Business, University of Chile. Awarded to students in the first percentile of academic performance

Programming skills

Stata, *advanced level*

R, *intermediate level*

Python, *intermediate level*

MATLAB, *intermediate-advanced level*

SQL, *beginner level*

LaTeX, *advanced level*

Pytorch, *beginner-intermediate level*

Google Cloud, *basic experience with cloud computing and usage of the Google Maps and StreetView APIs*

Google Earth Engine, *basic experience working with satellite images*