

Sebastian Cadavid-Sánchez

Contact Information	Xochicalco 880. Mexico City, Mexico. +52 5575493760 s.cadavid1587@gmail.com https://c1587s.github.io/scadavidsanchez/	
Education	Instituto Tecnológico Autónomo de México (ITAM) , México, DF MS in Data Science. Current GPA: 9.4/10 2021 (Expected)	
	Universidad de los Andes , Bogotá, Colombia MA in Economics 2017 BA in Economics 2014	
Employment and Experience	ITAM - Center for Data Science (CDS) Research Fellow, ITAM - Department of Math and Statistics Nov 2019 - Mar 2021	
	ITAM - Center for Economic Research (CIE) Research Assistant, ITAM - Department of Economics Aug 2019 - Dec 2020	
	Center for Latin American Monetary Studies (CEMLA) Research Analyst, Economic Research Department Aug 2016-Jun 2019	
	Congress of Colombia Economic Analyst Jan 2015-Sep 2015	
Complementary Education	Dynamics of Networks and Continuous Behavior; Analysis of Multiplex Networks; Analysis of Network Dynamics and Peer Influence with RSiena; Bayesian ERGMS with the Bergm package (Networks 2021)	Summer 2021
	Human Artificial Intelligence for Human Development (Universidad de los Andes); Ethics in Artificial Intelligence (ITAM)	Summer 2020
	Regime-Switching in VAR and DSGE models (Norges Bank and BI Norwegian BS)	Jan 2018
	Advanced Macroeconometric Forecasting (IMF and CEMLA)	Sep 2017
Work in Progress	<i>School Markets in Mexico</i> (with M. Romero and P. Mejía) We proposed a methodology for identifying commuting zones and schooling markets in Mexico using geospatial analysis and graph algorithms for community detection. Outputs will be used by CIE researchers to design experiments aiming to understand competition mechanisms in the Mexican educational system. Responsibilities: constructing and validating databases containing geographical information about nearly 230,000 Mexican schools, and with this database generate spatial geometry analysis to compute commuting zones. Additionally, I implemented network algorithms for community detection by utilizing bidirectional migration data of more than one million students.	
	<i>Early Warning System of Dropouts at Undergraduate Levels</i> (with CDS Research Team): Using Machine Learning techniques and longitudinal data, we developed an Early Warning System for identifying undergraduate students at high risk of abandoning their studies. We used metrics based on assistive or punitive actions to optimize the models and used existing methodologies for analyzing algorithmic bias and fairness among student groups. Responsibilities: Structuring databases,	

exploring data patterns, and implementing training and validation of machine learning models to generate risk score predictions for each student.

Software	Python, R, SQL, MATLAB, STATA, PostGIS, Bash, Docker, Git, and L ^A T _E X	
Teaching Experience	TA Intermediate Macroeconomics, Universidad de los Andes Instructors: D. Perez-Reyna and D. Zambrano Riveros	Winter 2016
Courses Organized	Regime Switching in VAR and DSGE models CEMLA	Nov 2018
	DSGE models in the Policy-Making Process CEMLA and International Monetary Fund (IMF)	Mar 2017
Research Documents (Economics)	Monetary Policy and Structural Changes in Colombia, 1990-2016: A Markov Switching Approach . Centro de Estudios de Desarrollo Económico CEDE No. 60, Universidad de los Andes, 2018.	
	Monetary and Fiscal Policy Interactions in Mexico, 1981-2016 (with Dr. Alberto Ortiz Bolaños and Dr. A. Martínez Fritscher). Under revision: Journal of Macroeconomics	
Chapters in Books	Did the Introduction of Inflation Targeting Represent a Regime Switch of Monetary Policy in Latin America? (with Dr. Alberto Ortiz Bolaños). <i>Inflationary Dynamics, Persistence, and Prices and Wages Formation</i> . Editorial CEMLA, 2020.	
	Targeting Long-term Rates in a Model with Financial Frictions and Regime Switching (with Dr. Alberto Ortiz Bolaños and Gerardo Kattan-Rodriguez). In: <i>Monetary Policy and Financial Stability in Latin America and the Caribbean</i> . Editorial CEMLA, 2018.	
Conferences and Seminars	XXII CEMLA's Annual Meeting of the Central Bank Researchers Network. Banco de la República, Bogotá, Colombia	Nov 2017
	Workshop on Nonlinear Models in Macroeconomics and Finance for an Unstable World (Poster Session). Norges Bank, Oslo, Norway	Jan 2018
Awards	Departamental Fellowship, ITAM Faculty of Mathematical, Statistical and Actuarial Sciences	2019-2020
	XXXIV Prize for Financial and Economic Research , USD 5000 Organized by Ernst & Young and IMEF (with with Dr. A. Ortiz Bolaños and Dr. A. Martínez Fritscher)	2018
References	Dr. Mauricio Romero Londoño Assistant Professor of Economics, ITAM and CIE. 52-55-5628-4000 (ext. 2965), mtromero@itam.mx	
	Dr. Adolfo De Unanue Research Director, Escuela de Gobierno y Transformación Pública, Tecnológico de Monterrey unanue@tec.mx	
	Dr. Rodrigo Mendoza Smith CEO at Quine , r@quine.sh	
	Dr. Alberto Ortiz General director at FONACOT, alberto@albertoortiz.net	