MONIKA AVILA MÁRQUEZ

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I am an econometrician working on the use of machine learning to estimate econometric models and on estimation methods for longitudinal data with clustering. In my dissertation, I provide an estimation method that uses neural networks to estimate causal or structural relationships. In addition, I present estimation methods (OLS, FGLS, GMM, Bayesian) for longitudinal data in the presence of clustering.

Skills: Double Machine Learning, Linear Regression for Hierarchical Models, Statistical Inference, Bayesian estimation, Causal analysis, Clustering, Generalized Linear Models.

EDUCATION

Ph.D. in Econometrics (with congratulations of the jury), University of Geneva — 2022
Committee: Prof. Stefan Sperlich (Chair), Prof. Aleksey Tetenov,
Prof. Jeffrey Wooldridge, Prof. Jaya Krishnakumar (Advisor).

Msc. Economics, Orientation: Econometrics (Highest Honors), University of Geneva — 2016

B.A. Economics (Highest Honors), University Juan Misael Saracho — 2008

EXPERIENCE

Teaching Assistant, University of Geneva — 2016-present
Delivered practical lectures for the following courses:
Graduate Level: Advanced Econometrics, Microeconomics II.
Undergraduate Level: Development Economics, Econometrics,
Introduction to Econometrics, Introduction to Statistics.

Research Assistant, Prof. Jaya Krishnakumar, University of Geneva — 2016-present
Developed a new estimation method for a class of panel data models.
Implementation of panel data estimation methods on Matlab, R Studio and Stata.
Developed a double machine learning method to estimate causal effects using Neural Networks.
Implementation of double machine learning methods on Python and R Studio.

Intern Department of Statistics, International Labour Organization — 2016
Statistical analysis of Mexican labour data.
Skill mismatch measurement in Mexican Labour Market.
Development of efficient data analysis tool for labour and migration data of Arab Countries using STATA.

Sovereign Risk Analyst, Central Bank of Bolivia — 2012-2014
Sovereign risk assessment of the foreign exchange reserves investments.
Development of the early warning system.
Use of Bloomberg for sovereign and operational risk monitoring.

COMPUTER SKILLS

Computer Languages	Python, Matlab, Stata, R, Latex, Bloomberg.
Databases	SQL (Basic)

LANGUAGES

English (fluent, C2), French (fluent, B2), Spanish (native).

COURSES

Advances in Financial Time Series Modeling, Study Center Gerzensee	2021
Recent Advances in Bayesian Macroeconometrics, Study Center Gerzensee	2019
Numerical Methods, Study Center Gerzensee	2019
Bayesian Econometrics, World Trade Institute	2018
Big Data in Finance and Economics, SoFie	2018
The identification of structural shocks in dynamic models, HEC Lausanne	2018

REFEREEING

Journal of Human Development and Capability Association.

FELLOWSHIPS & AWARDS

Subside Tremplin, University of Geneva	2020-2021
Société Académique de Genève	2018
Scholarship Simon I. Patiño	2014-2016