Aarón Mora

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Contact Information

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Education

University of Pennsylvania.
2018-Present PhD. in Economics (3rd Year currently).

Toulouse School of Economics.
2017-2018 Diplôme Européen d'Economie Quantitative Approfondie (DEEQA).
2015-2016 MSc. *first class honours* in Economic Theory and Econometrics.

Universidad de Costa Rica.
2011-2017 BSc. in Pure Mathematics.
2011-2014 BSc. in Actuarial Science.
2010-2013 BSc. *summa cum laude* in Economics.

Research Interests

Econometrics, Finance, Industrial Organization.

Working Papers

2020 Text into FX: Exchange Rate Supervised Topic Extraction. Link.
2018 Order Flow, Market Making and Exchange Rates: Costa Rica's Monex Market. Link.

Programming Languages

Advanced: R, Matlab, Julia, Python, LaTeX, Excel. **Intermediate**: Mathematica, VisualBasic. **Basic**: SageMath, Stata, HTML, JavaScript, Eviews.

Relevant Coursework related to AI

2020 TensorFlow Developer Professional Certificate
Coursera program offered by `deeplearning.ai`.
2019 PhD Courses at Penn: Nonparametric and Machine Learning Methods For Structural Estimation Problems. Econometrics I through IV covering topics of machine learning, cross section, times series and panel data.
2018 Barcelona GSE Summer School: The Data Science toolbox and
Bayesian Machine Learning in Social Sciences courses.
2018 Deep Learning Specialization, Coursera program offered by `deeplearning.ai`.

Languages

Spanish (Native Speaker), English (Fluent), French (Advanced User).

Interest in AI

My interests in AI gravitate mainly around the topic of Machine Learning and how this toolkit has forced me to revisit my understanding of the interplay between data, the model and statistical inference. My training has emphasized econometrics techniques, and as I learned of the increasing range of applications championing ML, examining the different estimation cultures was inevitable. I have been investing in learning to parse out concepts from one jargon to the other and identify the best parts of each world, searching for opportunities where unstructured data and unsupervised learning can complement more traditional econometric specifications.

I am working in the realm of Natural Language Processing, on topic extraction from a text corpus. My current application looks at whether news articles can be used as a high frequency covariate for exchange rates. A classic problem around exchange rates at short frequencies is their empirical disconnect with traditional fundamental variables of the economy; hence my current research looks to extract an information signal about fundamentals capable of inducing expectation revisions over such fundamentals and driving short run dynamics.

My second interest in NLP is on detecting biases at the document level. Work on bias at the word level has been done, but I would like to explore biases at the document level, and how topics may be under or overrepresented according to a bias paradigm relevant for the context of the document's creation. One potential application would be in legal documents where text is abundant.

Lastly, I am interested on industries commoditizing ML applications and infrastructure. My work as an RA studying the Cloud Computing Industry has shown me how transformative the distributed computing industry is and how developers are racing to use their infrastructure to commoditize ML applications.