JESICA MARIA RAMIREZ TOSCANO

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PROFILE

- **Motivation:** Passionate about discovering how machine learning can (and should) address social issues
- **Soft Skills:** Team player, Resourceful, Problem solving
- **Technical Skills:** Exploratory Data Analysis, Econometrics, Causal Inference, Supervised ML
- **Programming Skills:** Python, C#, R, SQL, HTML, JavaScript

EDUCATION

University of Chicago ***September 2019 - June 2021***
Master of Science in Computational Analysis and Public Policy *Honors Distinction*

Relevant Coursework: Causal Inference (2 courses), Machine Learning (2 courses), Databases, Data Visualization, Computer Science Applications (2 courses)

Universidad de las Américas Puebla, Mexico ***August 2012 - June 2017***
Bachelor in Economics *Magna Cum Laude Distinction*

1st Place in the Empirical Research Thesis Regional Competition in Puebla July 2017

PROJECTS github

• **Neural Networks and Social Polarization:** *Predicting Polarization From News Outlets Tweets.* I built a convolutional neural network using PyTorch and trained the model to learn the social polarization of the comments given a tweet posted by a news media outlet. This research aims to contribute to creating a more civil and less polarized space for discourse on social media.

• **Web Scrapping and Time-Series Prediction:** *Hohonu: Water Level Monitoring.* Given the lack of quality and standardized water level data, I collaborated in the pipeline development that cleans, calibrates and predicts local water level data. Scrapped data from +200 URLs to obtain standard measures (datums) needed in the calibration and optimized previous VAR model predictions with additional external data.

• **Classification and Prediction:** *COVID-19 in Mexico: Predicting severe disease outcomes.* Used balanced and weighted Random Forest Models to predict individual deaths and hospitalizations from government data.

• **Databases and App Management:** *Mapping Crimes at a Certain Day and hour with Mexico City.* Built a web-app to provide information on the average number of crimes that happened at a specified place in Mexico City using Google's API and +2million observations from the City Government's API.

PROFESSIONAL EXPERIENCE in

Deep Dive ***June 2020 - August 2020***
Data Science Intern

· Collaborated in the development of the company's NLP pipeline, and used various NLP methods such as LDA and Clustering of Word Embeddings and Document Embeddings to classify and group more than 50,000 Mexican News into 10 main topics (e.g. sports, public policy, international news).

Banco de México (Central Bank) ***August 2017 - August 2019***
Economist *General Directorate of Economic Research*

· Built an algorithm using NLP methods to assess the tone of communication (i.e. neutral, restrictive, expansive) of Banco de Mexico's policy statements (+80 policy statements over the 2008-2019 period)
· Used market instruments (i.e. swaps, bonds) and survey data to obtain inflation expectations and expected target rate for 1 month to 3 years ahead. This information guided monetary policy decisions.