

FEDERICO DOMINGUEZ MOLINA

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EDUCATION

The University of Chicago Computer Science Dept. & Harris School of Public Policy M.S. in Computational Analysis and Public Policy (MSCAPP)	Chicago, IL June 2024
Instituto Tecnológico Autónomo de México B.A. in Economics, Honors	Mexico City June 2020

PROFESSIONAL EXPERIENCE

Energy & Environment Lab <i>Research Analyst</i>	Chicago, IL June 2024 – Present
<ul style="list-style-type: none">Designed Serverless AWS Architecture to extract daily pollution data from 10+ cities.Implemented Python scripts to download and process over 2,500,000 raw satellite imagery filesCollaborated on automating the classification process of 50,000+ Twitter users with Natural Language Processing	
University of Chicago <i>Data Science Research Assistant</i>	Chicago, IL February 2023 – June 2024
<ul style="list-style-type: none">Co-developed FastAPI web platform to play laboratory games and inform research on children's decision-makingCreated 10+ interactive visualizations and dashboards with Plotly to detect bias in 250+ policing research papers	
Coding it Forward <i>Data Engineering Fellow</i>	Chicago, IL June 2023 – August 2023
<ul style="list-style-type: none">Automated data collection & cleaning for six websites with Python and reduced 10+ weekly hours of manual workBuilt a Python data platform allowing City of Long Beach's Climate Office to download data from 2010-2023, improving access and saving hundreds of work hours annually	
deep_dive <i>Senior Data Scientist</i>	Mexico City October 2021 – October 2023
<ul style="list-style-type: none">Led automatic alert system project to help 20+ clients improve customers relationships via social media analyticsCreated serverless computing architecture to collect data of over 250,000 commercial goods for strategic pricingDeveloped machine learning recommender system to offer customized loans to over 500,000 borrowers	
<i>Junior Data Scientist</i>	June 2020 – October 2021
<ul style="list-style-type: none">Extracted and parsed data from key Mexican governmental sources to support decision-making for 10+ clientsImplemented dynamic Power BI dashboard to monitor government projects and avoid 50+ potential challengesDevised Python machine learning models to become a top inflation forecaster in Mexico	

SELECT PROJECTS

Sports Betting Webscraping	July 2021 – April 2022
<ul style="list-style-type: none">Engineered serverless computing architecture to scrape odds of 3,000+ daily sport matches for maximum profit gain	
Trading Platform Maintenance	November 2022 – September 2024
<ul style="list-style-type: none">Developed Python code to ingest thousands of stock prices for an existing daily trading platformDesigned EC2 architecture and Python code to auto-trade over 5+ portfolios through Interactive Brokers	

SKILLS

Technical: Python (requests, selenium, fastapi, flask, pandas, regex, transformers, pytorch, numpy, scipy, scikitlearn, xgboost, statsmodels, boto3, pyspark, psycpg2, sqlalchemy, streamlit, seaborn, matplotlib, folium, plotly), **R** (ggplot2, tidyverse, dplyr, mlogit, randomforest, xgboost, caret, stargazer), **SQL, C, SAS, MATLAB, Power BI**
Cloud Computing: AWS (Lambda, EC2, Route53, IAM, SQS, SNS, Glacier), **Databricks**
Publications: *Academic Copaganda: Police Research in the Black Lives Matter Era* (w/ Dr. Robert Vargas, in review)