

FEDERICO DOMINGUEZ MOLINA

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EDUCATION

The University of Chicago Computer Science Dept. & Harris School of Public Policy Chicago, IL
M.S. in Computational Analysis and Public Policy (MSCAPP) June 2024

Instituto Tecnológico Autónomo de México Mexico City
B.A. in Economics, Honors June 2020

PROFESSIONAL EXPERIENCE

Energy & Environment Lab Chicago, IL
Data Scientist June 2024 – Present

- Pioneered a global alert system to target air pollution advocates from 30+ cities using X, natural language processing and real-time pollution data
- Implemented 10+ in-house algorithms to verify the compliance of 350,000 Public Water Systems across the US for 45+ different pollutants

University of Chicago Chicago, IL
Data Science Research Assistant February 2023 – June 2024

- Co-developed FastAPI web platform to play laboratory games and inform research on children's decision-making
- Created 10+ interactive visualizations and dashboards with Plotly to detect bias in 250+ policing research papers

Coding it Forward Chicago, IL
Data Engineering Fellow June 2023 – August 2023

- Automated data collection & cleaning for six websites with Python and reduced 10+ weekly hours of manual work
- Built 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 Mexico City
Senior Data Scientist October 2021 – October 2023

- Led automatic alert system project to help 20+ clients improve customers relationships via social media analytics
- Created serverless computing architecture to collect data of over 250,000 commercial goods for strategic pricing
- Developed machine learning recommender system to offer customized loans to over 500,000 borrowers

Junior Data Scientist June 2020 – October 2021

- Extracted and parsed data from key Mexican governmental sources to support decision-making for 10+ clients
- Implemented dynamic Power BI dashboard to monitor government projects and avoid 50+ potential challenges
- Devised supervised machine learning models to become a top inflation forecaster in Mexico

SELECT PROJECTS

Sports Betting Webscraping July 2021 – April 2022

- Engineered serverless computing architecture to scrape odds of 3,000+ daily sport matches for maximum profit gain

Trading Platform Maintenance November 2022 – September 2024

- Developed Python code to ingest thousands of stock prices for an existing daily trading platform
- Designed 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](#) (w/ Dr. Robert Vargas)