FEDERICO DOMINGUEZ MOLINA

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EDUCATION

The University of Chicago   Chicago, IL
M.S. in Computational Analysis and Public Policy   June 2024

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

PROFESSIONAL EXPERIENCE

The University of Chicago   Chicago, IL
Research Assistant   February 2023 – Present
- Collaborated on automating a classification process of 500,000+ Twitter users with natural language processing, using Hugging Face and custom models, to find air quality advocates
- Helped develop a FastAPI web platform to play laboratory games to research children's decision-making
- Created 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 and cleaning for 6 different websites using Python, saving 10+ weekly hours of manual work
- Built a Streamlit-based data platform allowing the City of Long Beach's Climate Office to select and scrape 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 an automatic alert system project to help 20+ clients improve relationships with customers via social media monitoring
- Created serverless computing architecture to collect data of over 250,000 commercial goods for strategic pricing
- Developed a recommender system with machine learning 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 over 10 clients
- Developed a dynamic Power BI dashboard to monitor government projects and avoid 50+ potential challenges
- Devised machine learning models in Python to become a top inflation forecaster in Mexico

PROJECTS

Sports Betting Webscraping   July 2021 – April 2022
- Built cloud serverless computing architecture to scrape odds of 3,000+ sport matches per day for competitive betting

Trading Platform Maintenance   November 2022 – Present
- Developed Python code to ingest thousands of stock prices for an existing trading platform daily
- Led a team of 4 to debug legacy C# code and create new Python functionalities
- Created the EC2 architecture to host a newer version of the platform on AWS

SKILLS

Technical Skills: Python (requests, selenium, fastapi, pandas, regex, transformers, pytorch, numpy, scipy, xgboost, statsmodels, boto3, pyspark, psycopg2, 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), Databricks (Jobs).
Publications: *Academic Copaganda: Police Research in the Black Lives Matter Era* (with Prof. Robert Vargas, in review)