Marlon Molina

Data Scientist

CONTACT

- Costa Rica
- (506) 8664-4960
- marmol95@outlook.com
- LinkedIn
- mmc00
- mmolinablog.com

EXPERIENCE

Data Analyst, Data Scientist
Ministry of Foreign Trade
June 2019 – current / San José, Costa Rica

- Performed supervised machine learning models (regression and classification) to forecast the total sales of the country and determine which products, among 4060, perform better
- Led the transition of data recollection to SQL. This process receives data from four diverse sources and by consolidate into a database
- Launched a daily telegram bot for sending any changes in the ETL process
- Initiated and managed a web scraping workflow for testing the internal data published online which covers the 95% of the data
- Automated queries and API call for repetitive process flows using ready-to-run Python scripts which save 80% of the time
- Analyzed trade and employment flows between countries, to evaluate employment perception under Free Trade Agreements, the research team found that Costa Rica's employment change is 20% explained by exports and imports
- Assembled a pipeline of Covid 19 cases daily data, using continuous delivery the data updates daily and send as input for sales forecasting to relevant trading partners

Research Scientist
Universidad Nacional
April 2021 - current / Heredia, Costa Rica

- Collaborated by analyzing government data over the years using time series techniques, for example: every dollar increases in the country's GDP, there is a $3.4 increase in tax revenue
- Investigated optimization problems in strategic products and the impact on adding a tax between 13% and 15%
- Tested a Genetic Algorithm to identify which products have a tax more than appropriate, affecting the welfare of the population. The tax range test is between 0% and 20%

Research Assistant
Universidad Nacional
January 2017 – March 2019 / Heredia, Costa Rica

- Evaluated tax incidence, to identify who pays taxes, according to the population's income
- Developed reports and dashboards of government variables to detect trends such as a percentage of debt or increase in government spending

EDUCATION

M.E.D.
Development Economics
Universidad Nacional
April 2019 - April 2021
Heredia, Costa Rica

B.S.
Economics
Universidad Nacional
April 2013 - April 2017
Heredia, Costa Rica

SKILLS

Python (NumPy, Pandas, Scikit-learn, Keras, Selenium)
R (Dplyr, Ggplot2, Rmarkdown)
SQL (Postgres)
Git
Time Series Forecasting
Cloud AWS (SageMaker, lambda, S3)

PAPERS

Impacto del Impuesto al Valor Agregado sobre la incidencia y la equidad
DOI: 10.15359/euna.2022-5
February 2022

Los efectos de la política fiscal en Costa Rica: Una aproximación con shocks fiscales
DOI: 10.22533/at.ed.2162152219087
September 2022

Incidencia del Impuesto al Valor Agregado: aplicación de un Modelo de Equilibrio General Computable en Costa Rica
April 2019

Thesis