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Carlos Alberto Taimal Yepes

Data Scientist / Data Analyst/ Statistician

github.com/taimal-xyz
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Data Scientist/ Statistician with over seven years of experience both in academia and industry. Deeply interested in changing the world through the use of technology and math, enjoys implementing machine learning models, time series analysis, and Bayesian data analysis, among other topics. Passionate about what he does, adaptable to teamwork, a capable self-learner and curious about how things work. Experience in: Machine Learning (Neural Networks, Tree based models, specialized libraries: `TensorFlow`, `Numpy`, `Scipy` and `CVXPY`), Optimization (Linear, non-Linear, metaheuristics) and Database management.

Skills

Languages	**Proficient:** Python, SQL, R **Experience:** JavaScript
Tech Stack	Git, AWS (Lambda, S3, RDS, DynamoDB, Athena), Docker, Bash, Jupyter Notebooks, VS Code, Metabase, Plotly, Power BI, LaTeX.

Technical Experience

Senior Data Scientist **Sept. 2025 — Nov 2025**
Banco Mundo Mujer *Popayán, Cauca*

- Methodological formulation of a Behavioral Scoring.
- Analysis of significant variables for the score fitting using the IV ($Information\ Value$), Variable Importance and $Feature\ Engineering$.
- Methodological formulation for the forecast of Default Probability greater than 30 days.

Programmer / Multipurpose Model Project **Jan 2025 — Sept 2025**
EAFIT University *Medellín, Antioquia*

- Working with a multidisciplinary team of architects, urban planners, statisticians, and software engineers to redefine and rewrite the Multipurpose Model (MMP) for the mayorship of Medellín.
- Documentation of the R code from the previous implementation of the MMP.
- Replacing legacy dependencies for reproducibility and portability into dedicated servers of the mayorship.
- Rewriting code as per the Google Style Code for R.

Skills: R, RStudio, Functional Programming, Tidyverse, Financial Simulation, Linear Programming.

BI Analyst **Nov 2023 — Nov 2024**
Corporación Interactuar *Bello, Antioquia*

- Worked with a team of finance-oriented professionals to create reports and visualizations for decision making.
- Implementation of a web tool to measure the profitability of the company.
- Optimization of the reporting process in 100% by consolidating different sources and automating the e-mail sending in 90%.

Skills: Linear programming, Convex Optimization, Data Visualization, Power BI, Plotly, Reporting, Bash, Python, Portfolio Optimization, `CVXPY`, AWS.

Statistical Programmer / Educative Innovation Project **May 2023 — Aug 2023**
EAFIT University *Medellín, Antioquia*

- Implementing binary classification models such as XGBOOST, Random Forests and Logistic Regression to calculate the dropout probability of Colombian students resulting in a F-score of around 89% and an Accuracy of 95%.
- Fitting unsupervised classification algorithms: K-means, Jenks Natural Breaks for clustering the students according to their dropout probability.
- Exploratory Data Analysis of 100% of colombian students during the 2015-2022 period, according to their sociodemographic, economic, and academic variables.

Skills: Multivariate Analysis, Binary Classification, Statistical Learning, Big Data, Python.

Data Analyst **Dec 2019 — Abr 2023**
Blaucast Media *Cali, Valle del Cauca*

- Characterization through Unsupervised Sentiment Analysis of Tweets for understanding the perception towards the Cali Mayorship. Around 5,000 tweets and 500,000 tokens were characterized through this approach. Models used: Word2Vec, Hierarchical Clustering, TF-IDF weighting.
- Data Quality checking for anomalies and monitoring the software development tools. Models used: Isolation Forests, Control Charts, Autoencoders, Elliptic Envelope and other distance based models.
- Optimization of SQL queries for automating the reporting processes for the Governorship of the Valle del Cauca Department.

Skills: Natural Language Processing, Multivariate Analysis, SQL querying, Reporting, Visualization, Computer Vision, Anomalies Detection, Time Series Analysis, Python, R.

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Education

Master in Applied Mathematics, *EAFIT University*. Master Degree Thesis: *Genetic algorithm with a Bayesian approach for multiple change-point detection in time series of counting exceedances for specific thresholds* Nov 2023

Bachelor of Statistics, *Universidad del Valle*. Jun 2018

Publications and Research

Suárez-Sierra, B.M., Coen, A., and Taimal C.A. (2023)., *Genetic algorithm with a Bayesian approach for the detection of multi- ple points of change of time series of counting exceedances of specific thresholds*. In: *Journal of the Korean Statistical Society*, pp. 1–43. https://doi.org/10.1007/s42952-023-00227-2.

Taimal, C.A., Suárez-Sierra, B.M., and Rivera, J.C. (2024)., *An Exploration of Genetic Algorithms Operators for the Detection of Multiple Change- points of Exceedances using Non-Homogeneous Poisson Processes and Bayesian Methods*. In: *Colombian Conference on Computing* , pp. 230-258. https://doi.org/10.1007/978-3-031-47372-2_20

Suárez-Sierra, B.M., Gómez-Montoya, K.M., and Taimal, C.A. (2025)., *Pollutants Exceedances Modeling using Non-Homogeneous Poisson Processes: A Case Study for Medellín and Bogotá, 2018-2020*. To appear In: *Air Quality, Atmosphere & Health*.

Activities

Analogue Photography.
Poetry Reading and Writing.
Bird watching club.
Gym and running.