OSCAR ALEJANDRO GOMEZ QUINTERO

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EDUCATION

New York University Abu Dhabi   **Aug 2016 - May 2020**
B.S. Mathematics, B.S. Computer Science - GPA: 3.89/4.00 (Cum Laude)   *Abu Dhabi, UAE*
- *Data Science For All by Correlation One:* DS4A Colombia Cohort 6 (2022)

SKILLS

Python (pandas, scikit-learn, pytorch, tensorflow, scipy, matplotlib, seaborn, plotly, bokeh, flask, django, FastAPI), **SQL**
Development: Javascript, Google Cloud, Azure Cloud, Terraform, Docker, K8s, Golang, C, C++, Java, R, Git, Linux, LaTeX
Languages: English (Bilingual), Spanish

WORK EXPERIENCE

Machine Learning Engineer   **Sept 2023 - Present**
Quipu Bank   *Bogota, Colombia*

- Developed and deployed machine learning models on GCP and AWS for alternative credit scoring using deep learning techniques on images, videos, audio, and tabular data, utilizing models such as CLIP, XCLIP, Whisper, and XGB.
- Implemented MLOps best practices, including the integration of MLflow for tracking experiments, model monitoring using BigQuery and Pub/Sub, and deploying APIs using FastAPI. Ensured the reliability of the infrastructure with Cloud Run and Cloud Build, and utilized Docker for containerization, while coordinating integrations with the risk and tech teams.
- Prototyped a chatbot with an OpenAI accelerator grant to serve as an informal CFO for micro businesses in Colombia.

Ignition Associate   **June 2022 - Sept 2023**
Scotiabank (Scotiatech)   *Bogota, Colombia*

- **Cloud Developer:** Deployed Azure Cloud Infrastructure using DevOps Pipelines and IaC (Terraform) to support application teams across the bank. Developed automated tests using Golang and documented the design and architecture of the pipelines.
- **Software Engineer:** Migrated Retail Risk Analytics Platform to GCP by refactoring SAS code to Python, and participating in architectural design. Conducted research and PoCs on GCP technologies (Pub/Sub, Cloud Functions, Airflow/Composer).

Research Assistant / PhD Student   **July 2021 - June 2022**
Duke University, Department of Computer Science   *Durham, NC, USA*

- Researched explanation methods for data-driven systems using causal inference. Developed an interactive webapp for data analysts to perform hypothetical What-If and How-To analysis in relational data with an extension of SQL.
- Developed machine learning models for a proptech startup as part of Duke's Pro-bono Consulting Program.

Data Scientist   **Aug 2020 - June 2021**
Quantil S.A.S.   *Bogota, Colombia*

- Developed an end-to-end machine learning solution to predict credit risk for a company focused on the distribution of sport products, successfully detecting more than 90% of the largest delayed payments and overall ROC-AUC of .79.
- Analyzed the dynamic spatio-temporal behavior of homicide data in Bogota using Zero-Inflated Embedding models [3].
- Studied the effect of compliance with quarantines and lockdowns on domestic violence during the Covid-19 pandemic in Bogota using mobility data and Generalized Additive Models (GAMs) [8].
- Developed interpretation methods for Conditional Generative Adversarial Networks (cGAN) to predict robberies using SHAP values. Implemented the calibration of the network for fairness using kernel mean embeddings [2].
- Presented results through reports and academic papers within teams of mathematicians, economists, engineers, and scientists.

Data Science Intern   **June 2019 - Aug 2019**
Nexquare   *Dubai, UAE*

- Enhanced student performance and employability prediction models by developing interpretability and visualization modules, and integrating Python and R back-ends for seamless model usage, collaborating with teams across Dubai and India.

Machine Learning Intern   **June 2018 - Aug 2018**
NYU Tandon School of Engineering, Visualization and Data Analytics Lab *New York City, NY, USA*

- Trained SVMs, Random Forests, and Neural Networks to predict customer credit risk from a FICO dataset, developing visual and interactive explanations based on feature importance and counterfactuals. Our solution [5] earned 2nd place in the **FICO Explainable ML Challenge**, and was generalized for tabular data in papers [1] and [4].

Machine Learning Research Assistant   **Feb 2017 - May 2018**
NYU Abu Dhabi, Music and Sound Cultures Group   *Abu Dhabi, UAE*

- Led the analysis of the NYUAD library's collection of over 10,000 Arab and African records using computational audio analysis, machine learning, and visualization techniques [7]. Developed an interactive webapp to explore musical similarity using k-means clustering, deep autoencoders, and t-SNE [6].

HONORS AND AWARDS

Full Scholarship: New York University Abu Dhabi	2016 - 2020
2nd Place Winner: NYUAD International Hackathon	Apr 2020
2nd Place Winner: FICO Explainable Machine Learning Challenge	Jan 2019
Best Admission Score (Nationally): Universidad Nacional de Colombia	Apr 2016
Honorable Mention/Bronze/Silver: International/Iberoamerican/Centroamerican Math Olympiads	2014 - 2016