

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

Relevant Coursework: ML, AI, Databases, Visual Analytics, Probability, Mathematical Statistics, Privacy and Fairness in DS

Data Science For All by Correlation One: DS4A Colombia Cohort 6 (2022)

SKILLS

Python (pandas, scikit-learn, pytorch, keras, tensorflow, scipy, numpy, matplotlib, seaborn, plotly, bokeh, flask), **SQL**, **R Development**: Javascript, Azure Cloud, Azure DevOps, Terraform, Golang, C, C++, Java, Mathematica, Git, Linux, \LaTeX .
Languages: English (Bilingual), Spanish.

WORK EXPERIENCE

Ignition Associate (Cloud Developer)

June 2022 - Present

Scotiabank (Scotiabank)

Bogota, Colombia

- Deployed Azure Cloud Infrastructure (kubernetes clusters, container registries, helm charts, docker containers) for application teams across the bank by using DevOps Pipelines and Infrastructure as Code (Terraform).
- Developed unit, integration, and component tests for the automated pipelines and infrastructure using Golang.
- Documented the design and architecture of the pipelines in the project's Security Design Document.

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 to predict property values for a proptech startup as part of Duke's Advanced Professional Degree Consulting Club Pro-bono Consulting Program.
- Teaching Assistant for the course *Mathematical Foundations of Computer Science*. Completed graduate coursework in Artificial Intelligence, Database Systems, and Privacy and Fairness in Data Science, regularly presenting research papers.

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].
- Collaborated within diverse teams of mathematicians, economists, engineers, and scientists. Regularly gathered and presented results through client meetings, progress reports, and 3 academic research publications.

Data Science Intern

June 2019 - Aug 2019

Nexquare

Dubai, UAE

- Enhanced machine learning models predicting student performance and employability by developing and incorporating an interpretability and visualization module within the analytics platform, collaborating with teams across Dubai and India.
- Integrated the Python and R back-end for the platform, allowing seamless use of models developed in both languages.

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 home credit dataset.
- Developed visual and interactive explanations for the models based on feature importance and counterfactuals. Our solution [5] earned 2nd place in the **FICO Explainable ML Challenge**. We generalized it for tabular data in the 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 collection of more than 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

Leadership and hobbies: NYUAD Mathematics Club President, Tennis, Basketball, Biking, Guitar, Bass, Drums.