JUAN FRANCISCO PALMEROS BARRADAS

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SUMMARY

Data Science expert with a proven track record of leveraging machine learning and data analysis to drive business results in the retail, finance industry and public policy field. Proficient in Python, Pyspark, Databricks, R, Azure and AWS Cloud services.

EDUCATION

Master's in Data Science   Mexico August 2022 – June 2023

Mexico Autonomous Institute of Technology (ITAM).   GPA: 9/10

Specialized in Machine Learning, Data Mining, Data Architecture, Statistics, Bayesian Statistics, and Causal Inference.

Bachelor's in Economics   Mexico August 2015 – July 2019

Center for Economic Research and Teaching (CIDE)   GPA: 9.2/10

Specialized in Microeconomics, Econometrics, Microeconometrics, and Applied Econometrics.

EXPERIENCE

Data Scientist & cloud developer

Capgemini (Applied AI Engineer & Data Scientist) - Mexico January 2024 - Present 2024

Coca-Cola Femsa Vendor

- Developed an end-to-end sentiment analysis pipeline to monitor brand sentiment using X (Twitter) posts.
- Designed and deployed a serverless architecture on Google Cloud Platform, utilizing Cloud Functions, BigQuery, and Cloud Storage for scalable data processing.
- Automated tweet extraction with Cloud Scheduler, enabling regular and timely data ingestion.
- Leveraged Vertex AI and the Gemini API to classify tweet sentiment using state-of-the-art LLMs.
- Visualized sentiment trends through an interactive Looker Studio dashboard, providing actionable insights for stakeholders.

Actinver Vendor (Data duplicates onboarding pipeline)

- Developed an onboarding workflow using GCP and cloud run functions to identify duplicate clients in the onboarding process.
- Designed a process to identify duplicate clients based on embedding representations generated with Gemini models and the vertex ai api.
- Designed algorithms to produce unique customer identifiers in alloyDB.

Customs office: Automated Invoice Data Extraction & Ingestion

- Implemented an AWS-based pipeline to process machine-typed PDF invoices and extract structured data into JSON.
- Developed event-driven AWS Lambda functions (exposed via REST API) to orchestrate PDF ingestion and JSON generation in Amazon S3.
- Integrated with Amazon RDS to persist a database record for each processed invoice, ensuring data integrity and downstream accessibility.

Coca-Cola Femsa Vendor

- Designed a Databricks training-cost assessment framework that flagged high-spend models, lowered overall compute costs, and guided client-specific model selection by balancing accuracy metrics against training expense.
- Integrated cost-efficient predictive models into the U.S. and Canada demand-forecasting workflow, prioritizing low training spend while maintaining strong accuracy and wMAPE performance.

- Led the development and deployment of a recommendation system that personalizes product recommendations for clients in Mexico, Brazil, Colombia, Paraguay, and Costa Rica. This project leverages diverse algorithms to enhance customer engagement. I productionized the system using a batch endpoint employing Databricks (inference and model training), Data Factory (pipeline) and Azure Blob storage.

- **Demand-based Pricing Strategy:** Developed and proposed a dynamic pricing model based on demand forecasts, utilizing machine learning and traditional econometric methods to optimize profitability under varying market conditions.

Data Scientist
Axity - Walmart Vendor, Mexico October – January 2024

- Conducted Market Basket Analysis using a sophisticated, combined strategy of FP-growth algorithm and NLP approaches. This method effectively and automatically assigns promotions to products, while also analyzing transaction databases to identify potential substitutes. This approach takes into account the impacts on complementary and substitute goods, ensuring a more targeted and efficient promotional strategy.

Data Scientist
Financial Group Banorte, Mexico June – October 2023

- Engineered a Bayesian inference model to evaluate the effectiveness of our banking infrastructure in capturing checking account balances and the account quantity on a county level.
- Executed a comprehensive historical analysis on Banorte's market stance against competitors in terms of banking infrastructure (ATMs and branches) and acquisition of open market and payroll accounts.

Financial Researcher-data scientist

Central Bank of Mexico, Mexico August 2019 – June 2023

- Spearheaded the first representative survey in Latin America assessing the financial health of individuals. View survey results (in Spanish)
- Played a key role in amending the National Survey of Financial Inclusion 2021 , recognized as one of the largest financial inclusion surveys globally.
- Designed an unsupervised machine learning model to ascertain optimal locations for financial infrastructure, aiding public investment in commercial bank branches.

Stack: python (pandas, numpy, matplotlib,seaborn,scikit-learn, scipy, selenium, beautifulsoup)