

DIEGO BERMUDEZ

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EDUCATION

Carnegie Mellon University, Heinz College, Pittsburgh, PA **December 2025**
Master of Information Systems Management – Business Intelligence and Data Analytics

- **GPA:** 3.85
- **Relevant courses:** Applications of LLMs, AI Engineering, Deep Learning, Entrepreneurship.

University of Los Andes, Bogotá, Colombia **April 2023**
Master of Arts in Economics

- **Thesis:** Access to financial services as a mechanism for consumption smoothing in the context of violence.
- **Relevant courses:** Advanced Econometrics, Topics in Machine Learning, Financial Risk Analysis.

University of Los Andes, Bogotá, Colombia **October 2020**
Bachelor of Arts in Economics

- **Relevant courses:** Financial Microeconometrics, Advanced Macroeconomics, Data Mining and Applications.

SKILLS

- **Programming Languages:** Python, SQL, R, Java, VBA, JavaScript, STATA, MATLAB, HTML5, Bash.
- **Machine Learning & AI:** PyTorch, TensorFlow, scikit-learn, spaCy, Transformers, XGBoost, LightGBM, HuggingFace, NLP, A/B, LangChain, LlamaIndex, FAISS, RAGAs, vector databases, prompt engineering, semantic search.
- **MLOps, Data Engineering & Cloud Infrastructure:** MLflow, Weights & Biases, DVC, Docker, Airflow, Jenkins, GitHub Actions, CI/CD Pipelines, Apache Kafka, Spark, Hadoop, Dataiku, Airbyte, PostgreSQL, AWS, GCP, Azure.
- **Visualization & BI Tools:** Power BI, Tableau, Streamlit, Plotly Dash, GIS (GeoPandas, Folium).
- **Statistical & Econometric Analysis:** Impact Evaluation, Time Series Modeling, Regression, Clustering, Structural Breaks.
- **Languages:** English (Fluent), Spanish (Native).

PROFESSIONAL EXPERIENCE

Davienda Bank (Daviplata) **Bogotá, Colombia**
Data Scientist **April 2023 – August 2024**

- Designed and deployed ML pipelines for georeferencing and customer segmentation, predicting business locations from transaction data to enhance targeted marketing across 1M+ businesses (**Python, scikit-learn, Docker, MLflow, PostgreSQL**).
- Integrated MLflow and Weights & Biases for experiment tracking and model versioning, ensuring reproducibility and governance across data teams (**MLflow, W&B, Git, Python**).
- Led A/B testing and causal analysis to identify behavioral drivers of digital wallet usage, increasing engagement and savings transactions by 20% (**Pandas, scikit-learn, CausalML, Airflow**).
- Built event-driven fraud detection and payment automation workflows via Kafka-based streaming pipelines, reducing operational latency by 40% (**Kafka, Airflow, FastAPI, Docker**).
- Migrated analytics infrastructure to GCP and implemented containerized deployments using CI/CD pipelines and version-controlled environments (**GCP, Docker, GitHub Actions, BigQuery**).

Business Intelligence Analyst **November 2021 – April 2023**

- Automated reporting workflows to the Colombian Financial Superintendence for 50K+ client petitions per month, ensuring compliance and traceability (**Python, SQL, ETL Pipelines**).
- Developed NLP models to classify customer feedback and measure satisfaction, reducing manual review by 6 hours per day (**spaCy, scikit-learn, REST APIs, Power BI**).
- Deployed predictive dashboards and BI systems for fraud-related payments and satisfaction metrics, enhancing decision-making efficiency (**Power BI, Docker, Dataiku**).

The Barometer **Bogotá, Colombia**
Data Analyst **December 2020 – January 2022**

- Developed and implemented unsupervised NLP models to analyze 500K+ social media and web posts, identifying nine thematic clusters related to migration and inclusion (**Python, LDA, k-means, pandas**).
- Designed and optimized a text classification pipeline to detect sentiment and discrimination patterns, monitoring spikes in xenophobic discourse following major migration events (**scikit-learn, spaCy, TF-IDF, Python**).
- Created network analysis visualizations to map the spread and influence of online conversations, uncovering regional narratives and actor clusters (**NetworkX, Gephi, Python**).
- Produced data-driven reports in collaboration with the International Organization for Migration (IOM), guiding policy responses and awareness campaigns across five Latin American countries.

Ecopetrol S.A. – Business & Commercial VP **Bogotá, Colombia**
Crude Trading Intern **January 2020 – July 2020**

- Developed a quantitative model to measure value generation in crude trading operations, increasing transparency and negotiation efficiency by 25% (**SQL, Excel, Python**).

ACADEMIC EXPERIENCE

Carnegie Mellon University – FLM Haiti **Pittsburgh, PA**
Capstone Project **August 2025 – Present**

- Collaborating with FLM Haiti to design and implement an offline-first Electronic Medical Record (EMR) system adapted to Haiti's infrastructure limitations, such as intermittent internet and electricity (**Flutter, Supabase, PostgreSQL**).
- Leading the development of a cross-platform mobile and desktop application with synchronization features for secure data storage and access in low-connectivity environments (**Flutter, Supabase Auth, REST APIs**).
- Integrated **Azure Forms OCR** for digitization of historical paper medical records, automating patient data extraction and reducing manual data entry effort.

Carnegie Mellon University
Research Assistant – Work Zone Crash Risk Project

Pittsburgh, PA
November 2024 – Present

- Built causal inference and deep learning models integrating GIS and time-series data to estimate the impact of work zones on crash risk (**TensorFlow, GeoPandas, scikit-learn, CausalML, GCP**).

University of Los Andes
Teaching Assistant – Financial Regulation

Bogotá, Colombia
January 2022 – July 2022

- Mentored students in financial regulation frameworks and policy design, incorporating simulations and real-world regulatory case studies.

Center for Economic Development Studies (CEDE), University of Los Andes
Professional Research Assistant

Bogotá, Colombia
November 2020 – July 2021

- Applied econometric (Bai–Perron, Chow, Structural Breaks) and ML (DTW, Clustering) methods to analyze public transport demand differentials by income levels (**R, Python, statsmodels, scikit-learn**).
- Processed mobility and smartphone usage data during COVID-19 using automated web scraping and transformation pipelines (**Python, BeautifulSoup, Pandas, NumPy**).

AWARDS

- Merit-Based Scholarship – Heinz College, Carnegie Mellon University (Mar 2024)
- Asobancaria 7th Call for Papers – Best Paper in Economics (Sep 2023)
- COLFUTURO Loan-Scholarship – Academic Merit and Professional Excellence (May 2023)