

Luis Miguel Montoya

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Data Scientist | Physicist

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SKILLS

Programming Languages: Python, SQL, Julia
Machine-Learning: ML, Deep Learning (MLPs, CNNs, RNNs, Transformers, GANs), A/B Testing
Experiment Platforms: BigQuery, Azure Databricks (PySpark), MLflow, TensorFlow, PyTorch, Scikit-learn, MLlib, EconML
Visualization: Plotly, Matplotlib/Seaborn, ECharts.js, Power BI, Streamlit
MLOps Practices: Git, CI/CD, real-time model monitoring, Agile/Scrum
Domain Focus: Fraud & Risk Analytics, Trust & Safety, Anomaly Detection, Credit Scoring
Soft Skills: Leadership & Mentoring, Stakeholder Storytelling, Strategic Thinking, Experimental Design
Languages: Spanish (Native), English (C1 — TOEFL iBT 110)

EXPERIENCE

Data Scientist Engineer 2024/11 – Present
Mercado Libre Medellín, Colombia

- **Understood 70%** of emerging or changing account-takeover and device-theft patterns by shipping a real-time anomaly detector on aggregated time-series features of credit products.
- **Strengthened** ATO & malware models (+10% precision) with behavioural biometrics — swipe cadence, device fingerprints.
- Implemented MLflow-based experiment tracking and monitoring SLAs across new pipelines; led code-review rituals with Product, Engineering & Fraud teams.

Data Scientist 2024/05 – 2024/11
Sistecrédito Medellín, Colombia

- Cut expected credit losses by predicting defaults with **80%** accuracy (Azure Databricks + PySpark + MLflow).
- Built payment-behaviour segmentation and automated ETL pipelines, lifting recovery rates and accelerating model retraining.

Development Specialist 2023/11 – 2024/05
Seguros SURA Medellín, Colombia

- Priced corporate health plans with predictive risk models, **balancing** premium hikes with retention.
- Delivered interactive dashboards and analytics tooling adopted by Sales and Portfolio teams.

Junior Data Scientist 2023/07 – 2023/11
Sistecrédito Medellín, Colombia

- Developed LSTM default-prediction and customer-lifetime-value models, **mitigating** risk and boosting marketing ROI.
- Automated data pipelines in Azure Databricks, enabling faster analytics turnaround.

Financial Data Analyst & Intern 2022/08 – 2023/07
Línea Directa Medellín, Colombia

- Applied Double Machine Learning to set dynamic prices and launched the team's first MLOps framework.
- Improved sales-forecast accuracy **10%** using a Temporal Fusion Transformer, enhancing financial planning.

EDUCATION

M.S. in Computer Science (OMSCS, Machine Learning) *Georgia Institute of Technology* Expected 2027
B.S. in Physics *Universidad EIA* 2019/07 — 2023/07

- GPA: 4.29/5.00 (Top 10%).
- Thesis: *Language Models Applied to Venture Capital Funding Prediction: Evidence for Latin America.*
- Internship Project: *Estimating Price Elasticity of Demand in the Fashion Industry through Causal Inference.*

Selected Online Credentials

- DeepLearning.AI Deep Learning Specialization (2024/02)
- TensorFlow Developer Professional Certificate (2024/02)
- GANs Specialization – DeepLearning.AI (In Progress)
- Google Data Analytics Professional Certificate (2023/05)
- TOEFL iBT 110 (C1, 2025)

ACTIVITIES

Activities & Leadership

- **Hackathon Winner** – Universidad EIA (2023): built UMAP-based clustering to segment Clients based on Colombian departments, generating novel features for Sistecrédito's credit-risk models.
- **Teaching Assistant** – Differential/Integral Calculus & Physics (2019-2023): coached 200 + students; praised for clear explanations and data-driven grading rubrics.
- Co-Led programming for FIRST Robotics team (2016-2019), guiding 10 peers and shipping autonomous navigation code.