Nicolás Robayo Pardo

Data Engineer · industrial engineer (M.Sc., operations research and applied statistics)

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PROFESSIONAL SUMMARY

Data engineer with five years of turning models into systems people use: ML credit-risk models, risk data warehouses and risk analytics apps for capital market infrastructures and end to end data platforms for B2B retail companies, and an origin–destination estimation pipeline for Bogotá's bus network. Industrial engineer (M.Sc., concentration in operations research and applied statistics, Universidad de los Andes). Based in Berlin; looking for a hands-on data engineering or data science role in a larger team, where I can go deeper technically.

SKILLS

Programming languages: Python (pandas, pytest), SQL, R
Cloud: AWS (ECS, Lambda, EC2, RDS/PostgreSQL), GCP BigQuery
Orchestration and CI/CD: Prefect, Docker, Jenkins, infrastructure as code, dev/staging/pre-prod/prod environments
Storage: PostgreSQL, Oracle, DuckDB, Parquet
BI: Power BI (DAX, M, Embedded), Shiny
ML and statistics: scikit-learn, XGBoost, SHAP, GLMs, RAG assistants, LLM agents
Optimization: gurobipy, PuLP, NetworkX, Xpress-Mosel

PROFESSIONAL EXPERIENCE

Analytics Lead — hands-on data engineering
05/2025 – present

LifeOne (UnoGroup) — Remote

Built and lead a three-person data team, reporting to the CTO; about 60 % of my time is spent building.

- Built the company's analytics platform end to end on AWS (ECS cluster, Lambda, EC2, PostgreSQL databases), DuckDB over Parquet, Python, Prefect and Docker, with dev/staging/pre-prod/prod environments, infrastructure as code, code review and automated deployments.
- Wrote and maintain the Prefect flows that integrate SQL databases, REST APIs and JSON/XML feeds.
- Delivered embedded Power BI for 45 internal and ~30 external users (company stores and partners).
- Automated assistance-claims handling: −70 % average handling time (process time before vs after the automated workflow).
- Hired and manage two data engineers (planning, code review); coordinate data exchange with retail partners (API protocols).

Analytics Professional, Risk & Methodologies (data science and data engineering)
05/2022 – 05/2025

CRCC — Colombia's central counterparty clearing house (Cámara de Riesgo Central de Contraparte) — Bogotá

- Designed and implemented a star-schema data warehouse consolidating risk and market data for regulatory and internal reporting (Oracle, SQL; Jenkins-automated jobs).
- Created new risk apps for the existing analytics platform: Shiny applications and APIs for internal teams and clearing members, automated risk back-testing and historical-VaR market-risk simulations.
- Built RAG assistants over the clearing house's rulebook, used by internal teams.

Credit Risk Analyst (ML credit scoring)
10/2021 – 04/2022

Banco de Bogotá — Bogotá

- Developed ML credit-scoring models (payroll-data scoring with decision thresholds; an early-delinquency model) with XGBoost, SHAP and PSI stability checks, and documented them for the risk team.

Teaching assistant, MIAD Optimization course (Coursera)
03/2021 – 06/2022

Universidad de los Andes — Remote

- Wrote and graded Python/PuLP case assignments (marketing mix, depot location, project selection and scheduling, multi-objective location), exams and lecture material for the optimization course of the Master in Data Analytics Intelligence (MIAD), with Prof. Andrés Medaglia; tutored the programme's first cohort (Aug 2021).

Strategy and Insights Intern, America Region
01/2020 – 06/2020

Intel Corporation — Bogotá

- Built marketing-analytics reporting and dashboards for the Americas team. Won awards for quality of work and commitment.

PROJECTS

Origin–destination matrices from smart-card data for Bogotá's BRT and bus network
02/2026 – 11/2026

TRANSMILENIO S.A., Dirección Técnica Zonal

Maintained and extended an O-D estimation pipeline originally developed by a Universidad de los Andes research group with TRANSMILENIO: bug fixes, precision improvements, quality-control checkpoints and new outputs (load profiles, demand-rotation index, time spent on system). Worked on R and SQL on GCP BigQuery. Used for new-route planning, weekend route redesign and daily dispatch.

References on request

Last updated: October 2026

EDUCATION

Universidad de los Andes[1] Bogotá

Magíster en Ingeniería Industrial (M.Sc. Industrial Engineering; concentration: operations research and applied statistics), cum laude *08/2021 – 12/2022 (degree conferred 04/2023)*

Thesis-based master's. GPA 4.84/5.0 (≈ 1.2 on the German scale, modified Bavarian formula). Thesis, 5.0/5.0: "Association between HPV vaccination in Colombia and the risk of incident chronic disease" — self-controlled case series, conditional Poisson regression, 55,114 vaccinated girls (advisor Carlos F. Valencia). Graduate coursework: Advanced Optimization (column generation, Lagrangian relaxation), Network Flows, Metaheuristics, Statistical Learning for Data Analytics, Linear Statistical Models, Advanced Topics in Statistics, Machine Learning.

Ingeniero Industrial (B.Sc. Industrial Engineering, ABET-accredited), cum laude *08/2016 – 12/2020 (degree conferred 04/2021)*

GPA 4.53/5.0 (≈ 1.7). Minor in International Studies. Thesis, 5.0/5.0: "A multi-criteria optimization model for bridge-intervention planning" — MILP over ~1,500 national bridges within an INVIAS–Uniandes–Javeriana agreement (gurobipy; advisor Andrés Medaglia). Teaching assistant, Principles of Optimization and Finance, 2018–2019; research assistant, INVIAS bridge-management project, 2020.

Secondary education · Ontario Secondary School Diploma, Hillcrest High School, Ottawa (02–06/2016) · Bachiller, Colegio de la Enseñanza, Bogotá.

TEACHING

- Teaching assistant, Optimization course of the Master in Data Analytics Intelligence (MIAD), Universidad de los Andes on Coursera · 03/2021 – 06/2022 · with Prof. Andrés Medaglia.
- Undergraduate teaching assistant, Principles of Optimization (2018-2, 2019-1, 2019-2) and Finance (2019-2): official assignment solutions (Xpress-Mosel), grading tools (VBA), training sessions.
- Research assistant (2020-2), INVIAS bridge-management research project.

LANGUAGES

Spanish (native) · English (fluent) · German (Goethe-Zertifikat A2; B2 course in progress) · French (B1, self-assessed).

WORK AUTHORIZATION AND AVAILABILITY

Work authorization: based in Berlin; eligible for an in-country switch to an EU Blue Card.

Availability: Available full-time immediately; no notice period.

[1] Universidad de los Andes is listed H+ in anabin; "Ingeniero Industrial" is rated equivalent to a four-year German bachelor's degree (anabin, Oct 2026). Both degrees verifiable at vericerti.uniandes.edu.co.