

Hendrik Steven Arias López

Data Scientist | Analytics, Optimization & AI Automation

Monterrey, Mexico

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Professional profile

Data Science & Mathematical Engineering graduate who turns data into decisions: **route optimization, segmentation and clustering, automation with Python and APIs, and generative AI (LLMs)**. Builds and operates production systems end-to-end and measures their impact on KPIs and ROI.

Education

Tecnológico de Monterrey

B.S. in Data Science & Mathematical Engineering

Jul 2025

Relevant coursework: Multi-Objective Optimization, Nonlinear Optimization, Abstract Algebra, Cybersecurity, Quantum Computing

Experience

Aurvy

Founder & Lead Engineer

Dec 2025–Present

AI-native apparel store: a text prompt becomes a design, previewed on garments, paid and shipped. Built and run solo, using AI coding agents as an accelerator.

- **Automated the end-to-end order flow** by integrating the OpenAI (image) API, **Stripe** (checkout, tax, webhooks) and a print-on-demand fulfillment API, with idempotent processing and automatic refunds.
- Designed the architecture and data model: **FastAPI**, **PostgreSQL**, **Celery** workers and Docker on DigitalOcean; Next.js/TypeScript on Vercel.
- Cut garment previews from 30–60 s to **under 2 s** with a custom Python image compositor.
- Quality and monitoring: **1,600+ tests** (pytest), Playwright E2E, load tests (p95 under 500 ms), Sentry/Prometheus, zero-downtime deploys.
- Business operations: IMPI trademark filing, LFPDPPP compliance with automated data-rights (ARCO) flows, SAT/CFDI invoicing, Meta Ads.

Industrias Alimenticias ARIS

Data Science Intern

Jun 2024–Aug 2026

- Optimized **distribution routes** with **stochastic optimization** to reduce transport distance and cost.
- Built **customer segmentation** with **k-means** ($k = 6$), grouping clients into 6 segments to support commercial and operational decisions.

TCA Consulting

Data Science Consultant — industry-partner capstone

Jan–Jun 2025

- Led **Deep Embedded Clustering** model training for the client's customer segmentation (Snowflake); proposal projected **197% ROI**.
- Reproducible pipelines with **Kedro**, experiment tracking with **MLflow** and GPU training (CUDA).
- Built stakeholder-facing analytics dashboards (Streamlit).

Tecnológico de Monterrey

Research Intern — Multi-Objective Optimization

Aug–Dec 2024

Hyper-heuristic for Pareto subset selection; article under review.

Casa Monarca

Cybersecurity Specialist

Jan–Dec 2024

Developed a **Python desktop application** and a **React web application**; implemented a deep-learning **facial recognition pipeline** (97% accuracy) and cryptography-based data protection.

Honors

2024 — Outstanding Student Award

- 2024 — 1st Place, ExpolIngeniería

Technical Skills

Data

SQL, PostgreSQL, Snowflake, Kedro (pipelines), Azure

Languages

Python, SQL, TypeScript, R, C++, MATLAB

Analytics & ML

Scikit-learn, PyTorch, TensorFlow/Keras, clustering (k-means), stochastic & multi-objective optimization, OpenCV, MLflow, CUDA

AI & Automation

OpenAI API (LLMs), API and web-hook integration, FastAPI, Celery, Claude Code

BI

Power BI, Streamlit

Engineering

Git, Docker, pytest, Playwright, Sentry, Prometheus, Vercel, DigitalOcean, Cloudflare

Selected Project

VANTEC — Autonomous Submarine Vision

Corrected underwater backscatter and color distortion enabling real-time **YOLO** detection; 14.6× GPU acceleration (CUDA).

Leadership

Director of Financial Research

IMEFU Campus CCM, 2022–2023.

Led nationwide workshops impacting **100+** students.

Certifications

Certified Ethical Hacker (2019)

- ITMO Data Science (2022) ▪

Bloomberg (2018)

Languages

Spanish (Native) ▪ English (B2)