

Daniel Flores Araiza

ML Engineer · Data Scientist · AI Researcher (PhD)

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[LinkedIn](#) · [GitHub: github.com/DanielF29](#) · [Portfolio: danielf29.github.io](#) · [Google Scholar \(15+ publications\)](#)

■ **Best Full Paper Award** – LatinX in Computer Vision Research Workshop, CVPR 2022 · Selected from 100+ global submissions

PROFESSIONAL SUMMARY

PhD-qualified ML Engineer and Data Scientist with 5+ years of experience building and deploying Deep Learning and AI solutions in research and production environments. PhD specialising in Explainable AI (XAI) and medical image classification, with 15+ peer-reviewed publications and a Best Paper Award at CVPR 2022. Industry experience in LLM fine-tuning, RAG architectures, automated n8n AI workflows, and fintech data pipelines. Pursuing MLOps mastery — CI/CD, cloud-based model serving, and experiment tracking — to deliver reproducible, scalable AI systems. C3.ai collaborator. Advanced English; comfortable in international async and meeting-based environments.

TECHNICAL SKILLS

ML & DL Frameworks	PyTorch, scikit-learn, Unsloth (LoRA/QLoRA), LangChain, n8n
MLOps & Experiment	MLFlow, Docker, GitHub Actions, DVC (in progress), Azure ML
LLM & GenAI	Fine-tuning (LoRA/QLoRA), RAG pipelines, prompt engineering, GPT APIs
Data & Backend	Pandas, MySQL, FastAPI, Streamlit
Visualisation & QA	Matplotlib, Plotly, ggplot, Datadog, Grafana K6, Pytest
Programming	Python (5+ yrs) · R · C/C++

WORK EXPERIENCE

Data Scientist · Grupo CAPEM

Jul. 2025 – Present

Fintech / Credit Management · Guadalajara, Mexico

- Migrated 450+ data fields per client (68 clients, 231 credits across 50 credit lines) into a centralised banking core — achieving full regulatory compliance to expand company funding and investor scope.
- Halved weekly and monthly portfolio reporting time to funds and investors by unifying credit administration into a single system, eliminating duplicate manual processes.
- Built automated n8n + GPT workflows for credit contract generation and committee reports, integrating real-time credit bureau lookups and blacklist checks — eliminating hours of manual document preparation per case.
- Led KPI/OKR platform evaluation (Profit.co, Perdo), delivered a custom SmartSheet solution enabling company-wide monthly KPI reporting and first-time OKR adoption.
- Currently leading initial design of internal AI platform: data lake + RAG chatbot for real-time querying of company data across platforms, with integrated KPI dashboards.

Higher Education Instructor · Tecnológico de Monterrey

Feb. 2024 – Present

Computational Thinking · LLM Fine-tuning · C3.ai Industry Collaboration

- Teach Computational Thinking to 3 groups of 15–50 students per semester, integrating Python, Docker, and GitHub in hands-on project-based learning.
- Co-led C3.ai industry collaboration: guided student teams in fine-tuning LLMs (Qwen-2.5-Coder, LLaMA 3B) using Unsloth and LoRA/QLoRA on SWE-bench Verified — top teams achieved a 10% improvement over the non-fine-tuned baseline.
- Developed LoRA/QLoRA curriculum from original research papers; multiple students received C3.ai hiring offers following the project.

Independent Technical Consultant · Freelance

Aug. 2024 – Jul. 2025

Software QA · ML Pipeline Testing · Remote Consulting

- Co-founded a 3-person consulting team delivering end-to-end QA for a B2B marketplace: led functional and performance testing using Pytest and Grafana K6.
- Identified and documented critical defects — broken payment flows, product catalogue upload failures, and inventory update errors — managing remediation through full retest cycles.

PhD Researcher — Explainable AI & Medical Imaging · Tecnológico de Monterrey

Aug. 2020 – Dec. 2025

XAI · Computer Vision · Medical Image Classification · PyTorch

- Developed interpretable CNN models for kidney stone classification (91% accuracy $\pm 1-3\%$, 6-class) and breast imaging / BIRADs (77% F1 $\pm 5-10\%$, 5-class).
- Pioneered Prototypical-Parts XAI approach for kidney stone identification during ureteroscopy — enabling surgeons to verify AI decisions against visual evidence; concept validated with a specialist urologist. Published at CVPR 2023 LatinX Workshop (Best Paper Award).
- Published causal scoring framework for medical image classification (IEEE 2025) and complete XAI methodology in a peer-reviewed journal (Applied Intelligence, 2025).
- Managed full experiment lifecycle with Docker and Git across 15+ publications; co-organised LatinX in AI workshops at CVPR 2022 and ICCV 2023.

Deep Learning Instructor · PLAI – Jalisco Open Platform for Innovation

Apr. 2024 – Aug. 2024

Online · Intermediate Level · PyTorch · Docker · Generative Models

- Delivered 2 cohorts (~15 students each) of an intermediate Deep Learning course; updated curriculum to include the latest generative models and deployment workflows with Docker and Jupyter.

Control Center IT Specialist · T-Systems México

Apr. 2016 – Aug. 2020

Enterprise IT Operations · Audi México · 24/7 Infrastructure Monitoring

- Monitored full IT infrastructure for Audi México's manufacturing plant (handhelds, Wi-Fi, IDFs, Nexus, servers, 2 redundant data centres, all app services) — sustaining 99.9%+ uptime on production-critical systems.
- Led a high-pressure 6-hour P1 cross-continental incident (Mexico + German teams, VP-level stakeholders on-site), delivering status updates every 15–30 minutes until resolution.

EDUCATION

Ph.D. in Computer Science · Tecnológico de Monterrey, Guadalajara Campus

Aug. 2020 – Dec. 2025

Dissertation: Explainable Deep Learning for Medical Image Classification · XAI · CNNs · Causal AI · PyTorch

M.Sc. in Intelligent Systems · Tecnológico de Monterrey, Puebla Campus

Jan. 2014 – Jun. 2019

B.Sc. in Mechatronics Engineering · Tecnológico de Monterrey, Puebla Campus

Aug. 2008 – Dec. 2013

SELECTED PUBLICATIONS & AWARDS

■ **Best Full Paper Award** – LatinX in CV Research Workshop @ CVPR 2022

[1] Flores-Araiza et al. — "Deep Prototypical-Parts Ease Morphological Kidney Stone Identification" — CVPRW 2023

[2] Flores-Araiza et al. — "Causal Scoring for Explainable Medical Image Classification" — IEEE 2025

[3] Flores-Araiza et al. — "XAI Methods for Medical Image Classification" (Journal) — Applied Intelligence 2025

[4] Flores-Araiza et al. — "Causal Evaluation on Automated Feature Engineering" — arXiv 2022 · + 11 additional publications

Workshop Organiser — LatinX in AI @ CVPR 2022 & ICCV 2023: expanded outreach and international participation.

CERTIFICATIONS

- DeepLearning.AI Specialisation — Generative Adversarial Networks (GANs) · 2023
- DeepLearning.AI Specialisation — AI for Medicine · 2022
- DeepLearning.AI Specialisation — Neural Networks and Deep Learning · 2021

Full certificate list: [LinkedIn Profile](#)

LANGUAGES

Spanish – Native · **English** – Advanced (C1) · Comfortable in international meetings, async collaboration, and technical writing