

# Luis Fernando Chavez

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## Python Developer & Machine Learning Engineer

I am a Machine Learning Engineer obsessed with building production-grade AI systems that solve hard problems. I don't just write scripts; I architect **Autonomous Agents**, **RAG pipelines**, follow the lifecycle of Classical ML models and **Fine-tuned LLMs** that drive real automation. Currently at EY, I'm pushing the boundaries of enterprise data systems by replacing legacy heuristics with **predictive models (XGBoost/RandomForest)** and **Semantic Reasoning**. I am looking for a challenging technical role where I can deploy complex AI architectures, from training custom models to orchestrating multi-agent workflows, rather than just maintaining data pipelines.

## SKILLS

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**GenAI & LLM Stacks:** Agents, Fine-Tuning (PEFT/LoRA), Gemini API, LangChain, LlamaIndex, OpenAI API, Prompt Engineering, RAG Architectures, Vector DBs (Pinecone/ChromaDB/AWS OpenSearch).

**Machine Learning & Data Science:** DeepFace, NumPy, Pandas, Polars, PyTorch, RandomForest, Scikit-Learn, Sentence Transformers, TensorFlow, XGBoost

**MLOps & Cloud Infrastructure:** AWS (SageMaker/Lambda/EC2), CI/CD for ML, Docker, Kubernetes, MLflow, Snowflake (Snowpark/Cortex)

**Development & Model Serving:** Bash, FastAPI, Flask, Git/GitHub, Python (Advanced), REST APIs, SQL

## WORK EXPERIENCE

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### EY GDS (Ernst & Young Global Delivery Services) • Mexico - Remote • 10/2025 - Present

#### Senior AI & Data Engineer • Full-time

Supporting the technical design and implementation of scalable AI/ML solutions, focusing on modernizing enterprise data architectures through MLOps best practices and Agentic workflows. Responsible for translating complex business requirements into robust, cloud-native Python architectures within Snowflake and AWS ecosystems. Drive innovation in automating decision-making processes, optimizing inference pipelines, and ensuring production-grade code quality for high-impact client engagements.

- Engineered a fully automated **Snowpark Python pipeline** that replaced intensive manual data stewardship, processing high-volume datasets with zero human intervention.
- Architected a sophisticated matching engine combining **Fuzzy Logic algorithms** with **LLM-based semantic reasoning** to resolve complex entity ambiguities and edge cases that traditional rules missed.
- Designed modular data pipelines using specialized Python libraries within Snowflake, reducing processing latency and ensuring seamless integration with downstream SQL analytic layers.

### Willow Group • New York • 11/2024 - 10/2025

Artificial intelligence, machine learning, and data science studio that builds core product with pre-seed startups, multimillion-dollar companies.

#### Machine Learning Engineer • Full-time

- Increased real-time classification accuracy by 60% within 2 months by designing and implementing a serverless carbon emissions backend using AWS Lambda and OpenAI integration.
- Improved code organization and maintainability within 1 month by refactoring the codebase, consolidating Lambda functions into a structured repository with clear folder divisions.

- **Developed robust fallback and batching mechanisms** that preserve item order and handle multiple currencies, regions, and edge cases, ensuring accurate and resilient carbon footprint calculations even under adverse conditions.
- **Implemented LLM-based classification systems** for advanced NLP tasks, utilizing custom model architectures and fine-tuning techniques to achieve superior accuracy in text classification and prediction tasks
- **Developed comprehensive data collection pipeline** combining web scraping, data preprocessing, and feature engineering to create robust training datasets for predictive models

#### **Cognizant • Remote • 06/2024 - 08/2024**

##### **Generative AI Extern • Internship**

- Participated in a hands-on learning externship focused on the fundamentals of generative AI and its practical applications.
- Studied and applied deep learning concepts, including foundation models and parameter-efficient fine-tuning (PEFT).
- Customized pre-trained models for specific tasks using tools like PyTorch and Hugging Face.

#### **TheRocketCode • CDMX, Mexico • 01/2024 - 07/2024**

##### **Python Developer • Full-time**

- Designed and developed predictive models for a Telegram bot, focusing on improving user engagement and prediction accuracy.
- Implemented machine learning algorithms and optimized model performance.
- Managed the migration of the project infrastructure from Heroku to AWS, improving deployment efficiency and system scalability.

#### **Alldatum • CDMX • 11/2023 - 01/2024**

##### **Data Consultant Trainee**

- Created and documented data models, enhancing the efficiency of system architecture.
- Implemented data governance policies to ensure data integrity and compliance with industry standards.
- Conducted data profiling and quality assessment to identify and resolve discrepancies.

#### **AFDevelopment • Ciudad Guzman, Jalisco • 02/2020 - 10/2023**

##### **Full Stack Developer • Internship**

- Developed a full-stack Java application for cryptocurrency management, focusing on secure database connections and user authentication.
- Led the migration of the application to a Django-based platform, integrating real-time data analytics and deploying it on Azure containers.

## **EDUCATION**

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### **Bachelor of Computer Systems Engineering in Artificial Intelligence**

Tecnológico Nacional de México • Ciudad Guzmán, Jalisco

## **CERTIFICATIONS**

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### **Scrum Fundamentals Certified • 01/2024 - Present**

SCRUMstudy - CertiProf

### **Hadoop • 11/2023 - Present**

Cognitive Class, IBM

### **Spark Fundamentals 1 • 10/2023 - Present**

Cognitive Class, IBM

### **Docker Essentials • 10/2023 - Present**

Cognitive Class, IBM

### **Professional Git and GitHub Course • 08/2023 - Present**

Platzi

## **Advanced Python Course • 12/2021 - Present**

Formación TAE CANIETI Occidente

### **PROJECTS**

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#### **Architecture Firm Landing Page • 06/2025 - Present**

Freelance Client

- Designed and developed responsive landing page for architecture firm using modern web technologies
- Implemented clean, professional design with optimized user experience and mobile responsiveness
- Delivered complete solution from concept to deployment within project timeline

#### **AI Assistant • 05/2023 - Present**

Developed an AI assistant leveraging advanced NLP techniques and machine learning algorithms to deliver accurate, contextually relevant information on computer systems engineering, providing students with a reliable educational resource.

#### **GUI Inference Engine • 04/2023 - Present**

Designed a graphical user interface for an inference engine using chaining methods and natural language processing. This project demonstrated the integration of complex logic systems with user-friendly interfaces.

#### **Mini Compiler • 10/2022 - Present**

Designed and implemented a mini compiler in Python, focusing on syntax and lexical analysis. This project highlighted the capability to handle complex programming language structures and improve code efficiency.

#### **Emotion Analysis in the Classroom • 01/2023 - 05/2023**

Pioneered real-time emotion analysis using computer vision and the DeepFace library to enhance classroom engagement. The project aimed to provide insights into student emotions to support better teaching strategies.