ALFONSO GIUSEPPE CARTE GRANILLO

AI & Tech Solutions Lead | LLM Systems | RAG & Conversational AI

giuseppe.cartegra@gmail.com | +(52) 55-1335-1403 | LinkedIn • GitHub • LeetCode

KEY ACHIEVEMENTS

- ✓ Deployed production RAG systems processing **100K+ queries monthly** for enterprise chat applications
- ✓ Reduced client data analysis time by **60%** through LLM agent automation
- ✓ Led **8+ end-to-end ML projects** from research to production deployment across BESS, Solar, Wind, and Oil & Gas
- ✓ Built scalable data pipelines handling **millions of sensor readings daily** with optimized analytics for asset performance

PROFESSIONAL SUMMARY

AI & Tech Solutions Lead with **3+ years** building production ML systems and cutting-edge LLM applications. Recently promoted to lead AI initiatives, specializing in **conversational AI, RAG pipelines, and agentic systems**. Proven track record deploying scalable ML solutions across renewable energy and finance sectors, with expertise in predictive maintenance, asset optimization, and anomaly detection.

TECHNICAL EXPERTISE

AI/LLM Technologies

RAG, LLM Agents, Conversational AI, Prompt Engineering, Vector Databases, LangChain, LlamaIndex

ML/Deep Learning

PyTorch, TensorFlow, Scikit-Learn, Transformers, Neural Networks, Predictive Models

Programming

Python (Expert), SQL, Haskell, REST API, Django, FastAPI, Microservices

Data Engineering

Snowflake, Databricks, Apache Spark, ETL Pipelines, Data Integration

MLOps & Cloud

AWS (EC2, S3, Lambda), CI/CD, Docker, Model Deployment, Production Systems

Languages

Spanish (Native), English (Fluent), Italian (Professional)

PROFESSIONAL EXPERIENCE

AI & Tech Solutions Lead | Narrativewave — *Sep 2025 - Present*

US-based Energy Tech Startup | Guadalajara, México

LLM & Conversational AI Leadership:

- Architected and deployed production RAG systems for enterprise chat applications, enabling natural language queries over complex energy datasets
- Developed LLM-powered agents for automated data analysis and insights generation, reducing analysis time by 60%
- Implemented multi-agent systems for intelligent task routing and orchestration across renewable energy workflows
- Built conversational interfaces using latest LLM APIs (Claude, GPT-4, Gemini), integrating domain-specific knowledge bases

Technical Leadership:

- Lead AI strategy and technical roadmap for energy analytics platform, driving adoption of cutting-edge LLM technologies
- Conduct weekly technical meetings with 3+ clients, translating complex business requirements into innovative AI solutions
- Mentor junior team members on ML best practices, prompt engineering, and modern AI architectures

Data Scientist II / Data Engineer | Narrativewave

Feb 2022 - Sep 2025

US-based Energy Tech Startup | Guadalajara, México

ML Engineering & Predictive Analytics:

- Led 8+ ML projects across renewable energy sector including **predictive maintenance** for BESS, Solar, Wind, and Oil & Gas assets
- Created comprehensive **asset optimization analyses** to improve performance efficiency across Solar, Wind, BESS, and Oil & Gas operations
- Developed **anomaly detection systems** and market participation strategies for energy trading optimization
- Implemented **degradation control models** and under-performance analysis for battery storage systems
- Deployed production models serving 3+ enterprise clients with real-time monitoring and alerting systems

Data Engineering & Visualization:

- Engineered scalable data pipelines integrating diverse sources (Snowflake, Pi Vision, Canary APIs) handling millions of sensor readings daily
- Created interactive dashboards and visualization tools for real-time KPI monitoring and performance tracking

Quantitative Developer | Crypto Trading Bots (Personal Project)

Nov 2020 - Feb 2022

Mexico City

- Built and deployed automated cryptocurrency trading system using Binance API with ML-based trading strategies
- Implemented real-time data processing and algorithmic trading strategies with Python, Pandas, NumPy, Numba, AWS

Data Scientist Intern | National Institute of Genomic Medicine

Mar 2021 - Jan 2022

Computational Genomics Department | Mexico City

- Applied ML techniques to genomic data analysis and developed statistical models for biological pattern recognition

EDUCATION

Bachelor's Degree in Applied Mathematics

Sep 2016 - Dec 2021

Universidad Autónoma Metropolitana, Mexico City

Relevant Coursework: Optimization Theory, Probability & Statistics, Graph Theory, Linear Algebra, PDEs

Programming: Python, C, C++, Wolfram Mathematica

CERTIFICATIONS

- **Meta Back-End Developer Professional Certificate** | Meta/Coursera | 2024
- **Deep Learning Specialization** (Neural Networks, CNNs, NLP) | DeepLearning.ai | 2020
- **Software Engineering for Data Scientists** | DataCamp | 2022