Marco Mongi

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Professional Summary

Telecommunications Engineer specialized in AI and Data Science, focused on building production-ready ML systems. I build end-to-end solutions across computer vision, data pipelines and LLM-based systems, applying strong Python engineering practices, clean code and scalable architectures. Former Product Owner and Systems Engineer, I led multidisciplinary teams and technical initiatives, including satellite and Industry 4.0 projects approved by NASA boards. English C2.

Work Experience

Ascentio Technologies Río Cuarto, Argentina
Product Owner, Systems Engineer July 2022 – July 2025

- **Managed teams** of up to 10 people as **Product Owner** and **Systems Engineer**, leading the Technological Infrastructure and Science Data Processing subsystems of the SABIA-Mar satellite mission.
- Launched the company's **artificial-intelligence division**, transferring expertise to the team and enabling the acquisition of new clients in computer vision and Industry 4.0.
- Led end-to-end a **computer-vision production-control system** for an industrial plant, covering design, production rollout and ongoing maintenance. The solution blends multi-object detection and tracking, edge computing, IoT protocols and real-time dashboards, enabling performance and efficiency monitoring.

Ascentio Technologies Río Cuarto, Argentina
Python Developer August 2023 – April 2024

- **Implemented** over 20 improvements to the L0 processor of the SABIA-Mar satellite mission in Python, fulfilling client-required functionalities within a 3-month timeframe.

Ascentio Technologies Río Cuarto, Argentina
Data Scientist September 2020 – December 2020

- Developed a platform for **automatic crop detection** in Python, achieving 80% accuracy using supervised classification algorithms applied to time series of multi-spectral satellite images.

Faculty of Engineering, UNRC Río Cuarto, Argentina
Intern 2018 – 2019

- Contributed to the project "Improving university campus accessibility – Hearing loops", implementing **systems to enhance hearing** for people with impairments.

Education

Stanford University Online
Machine Learning Specialization 2025

National University of Córdoba / MundosE Córdoba, Argentina
University Diploma in Data Science 2024

National University of Río Cuarto (UNRC) Río Cuarto, Argentina
Telecommunications Engineering, Radiocommunications Orientation. GPA: 8.71 2013 – 2022

COURSES AND CERTIFICATIONS

2025 | EF SET English Certificate | EF SET | C2 Proficient
2025 | Gen AI Intensive Course | Google / Kaggle
2025 | Apache Airflow 3 Fundamentals | Astronomer
2024 | Introduction to Statistics | Stanford University
2017 | **First Certificate in English** | University of Cambridge | Grade A (C1)

Additional courses on LinkedIn profile.

Skills

TECHNICAL SKILLS

- **Python** (OOP, NumPy, Pandas, Scikit-learn, pytest, FastAPI, CI/CD).
- **SQL**.
- **Machine Learning & AI**: supervised/unsupervised models, reinforcement learning; time-series forecasting; deep learning with PyTorch and Keras/TensorFlow; LLMs; generative AI & prompt engineering.
- **Computer Vision**: object detection and segmentation, OpenCV, digital image processing, remote sensing imagery, GIS.
- **Data Engineering**: ETL pipelines and Apache Airflow orchestration.
- **Data Visualisation & Dashboards**: Tableau, PowerBI, Grafana.
- **DevOps & Cloud**: Git, GitHub & GitHub Actions, Docker, Docker Swarm, Kubernetes, high-concurrency architecture, AWS, GCP.
- **Testing**: unit (pytest, unittest), system (Robot/Behave) and end-to-end.
- **Product & Project Management**: Agile/Scrum (JIRA), Product Ownership, Product Management.

Personal Projects

I have developed a comprehensive portfolio of AI and data engineering projects, including:

- **Computer Vision:** Real-time license plate detection (YOLOv8, DeepSORT, OCR) and automated blood cell counting (YOLO+SAM2 pipeline)
- **NLP & LLMs:** Local AI chat platform with RAG and agentic workflows, multi-agent resume optimizer, interactive story generator with bilingual voice interaction, and Whisper-based transcription studio
- **Machine Learning:** Deep reinforcement learning lunar landing controller, CNN-based digit classification (99.49% accuracy), unsupervised anomaly detection with Isolation Forests for health monitoring, time-series energy forecasting (regression), and survival probability predictor
- **Data Engineering:** Apache Airflow ETL pipelines and real-time anomaly streaming with TIG stack

All projects feature production-ready practices including Docker containerization, interactive UIs, and comprehensive documentation. As a hobby, I also enjoy working with electronics (Arduino, Raspberry Pi) and 3D printing. For additional details on the projects, visit my GitHub profile.

Languages

- **Spanish**: Native
- **English**: C1 (ESOL) / C2 (EF SET)