

# Marco Mongi

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## 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.
- **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

#### Intern

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.

## Education

### Stanford University

Machine Learning Specialization

Online

2025

### National University of Córdoba / MundosE

University Diploma in Data Science

Córdoba, Argentina

2024

### National University of Río Cuarto (UNRC)

Telecommunications Engineering, Radiocommunications Orientation. GPA: 8.71

Río Cuarto, Argentina

2013 – 2022

## COURSES AND CERTIFICATIONS

2025 | EF SET English Certificate | EF SET | C2 Proficient

2025 | Gen AI Intensive Course | Google / Kaggle

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).
- Databases: **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.
- **Web/UI Prototyping:** Gradio, Streamlit.
- **DevOps & Cloud:** Git, GitHub & GitHub Actions, Docker, Docker Swarm, Kubernetes, high-concurrency architecture, AWS, GCP.
- **IoT & Edge Computing:** MQTT, Raspberry Pi, hardware accelerators.
- **Systems Design:** scalable Industry 4.0 and satellite applications (frontend, backend, databases).
- **Testing:** unit (pytest, unittest), system (Robot/Behave) and end-to-end.
- **Hardware & Prototyping:** Arduino, robotics, sensor integration, soldering, 3D design (SolidWorks/Fusion 360) and 3D printing (FDM).
- **Operating systems:** Windows & Linux.
- **Public speaking & training materials** (English/Spanish); effective communication.

## SOFT SKILLS

- **Effective stakeholder communication**, expectation management and negotiation.
- **Effective communication of technical concepts** to non-technical audiences.
- **Cross-functional leadership and coordination**, fostering teamwork.
- **Continuous improvement and innovation** of processes, products and working methods.
- **Mentoring**, knowledge transfer and peer reviews.
- **Customer-centric** focus.
- **Emotional intelligence** and empathic collaboration.
- **Time management** and high-quality delivery under pressure.
- **Continuous learning and adaptability** to change.

## Presentations and Recognitions

## COMPETITIONS

- 2024 | Winner of the **Datathon** Río Cuarto 2024, developing improvements for an LLM chatbot for bullying prevention. Competed in groups of 4 people with approximately 100 participants, performing ETL activities.

## 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, 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)