

RAMON FONTELLES CONGOST

Machine Learning Engineer with an Electronics Background

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Electronics engineer with expertise in **Machine Learning** and **Data Analysis**. At Cadence, leading the automation in Electronic Design Tools using **Python** pipelines. Continually learning the latest technologies, transitioning into **Machine Learning** to leverage and scale my technical skill set.

TECHNICAL SKILLS

- **Languages:** Python, Bash, C++, SQL
- **ML Stack:** PyTorch, TensorFlow, scikit-learn, pandas, NumPy, Matplotlib, Bokeh, PEFT
- **ML Techniques:** Supervised ML, CNN, RNN, Transformers, LoRA/QLoRA fine-tuning
- **Embedded & IoT:** ESP32, Arduino, nRF, BLE, LoRa, RS-485, MQTT

PROFESSIONAL EXPERIENCE

Solutions Engineer – Cadence Design Systems (Mar 2023 - Present, Cork, Ireland)

- Specialized in **Electronic Design Automation** (EDA) and Parasitic Extraction (PEX) for ICs, I build **Python** scripts to automate design workflows across large datasets.
- Automated the scalable ingestion of PEX data, handling batches up to **100 GB+** files and delivering an **interactive dashboard**, cutting fault detection time by **50 %+**.

Quality Engineer – ALPS Electric (May 2022 - Mar 2023, Millstreet, Ireland)

- Managed 50+ customer returns, led investigations, applied problem-solving techniques such as 5 Whys to identify root causes and failure patterns, and implemented corrective actions.

IoT Developer – Electronic Projects (Oct 2021 - Feb 2023, Freelance)

- Delivered **10+** end-to-end **IoT prototypes** with custom **C++** firmware for embedded microcontrollers. Expertise in real-time data streaming (BLE, LoRa, MQTT, RS-485).

EDUCATION

Master's Degree in Artificial Intelligence (2024)

Polytechnic University of Madrid (Madrid, Spain)

- MSs Thesis: Enhancement of **Multi-Agent System** for Job Shop Scheduling

Bachelor's degree in Electronic Engineering and Industrial Automation (2016 - 2020)

University Miguel Hernandez (Elche, Spain)

- BSc Thesis: **SVM-Based** Obstacle Detection in Gait from Brain Signals

LANGUAGES

Spanish (Native) • **Catalan** (Native) • **English** (Professional)