

# Oriol Reverté Roca

Address: La Ràpita, Tarragona | Mobile: +34 633 15 48 34 | Email: oriolreverte@gmail.com

## PROFESSIONAL SUMMARY

Results-oriented Electronics Engineer with a degree from UPC and hands-on experience in embedded systems design, PCB development (Altium, KiCad), and RTOS (Zephyr). Proven ability in hardware prototyping, testing, and troubleshooting from concept to validation. Recently deepened expertise in IoT technologies, including nRF platforms, TCP/IP, Linux, MQTT, cloud integration (Oracle Cloud, TimescaleDB), and Next.js through self-directed projects. Fluent in English, Spanish, and Catalan. Willing to travel.

## SKILLS

**Embedded Systems:** RTOS (Zephyr), Linux (Command Line, Server Setup), Microcontrollers (nRF series, STM32), Firmware Development & Debugging

**Protocols & Networking:** TCP/IP, MQTT (HiveMQ), Cellular IoT (LTE-M), AT Commands

**Programming & Software:** C/C++, Python, MATLAB, Embedded C, Next.js

**Hardware & PCB:** Altium Designer, KiCad, EagleCAD, Schematic Capture, PCB Layout, Assembly, Soldering, Testing, Troubleshooting

**CAD & Simulation:** Onshape, SolidWorks, Proteus, Fusion360

**Databases & Cloud:** TimescaleDB, Oracle Cloud Infrastructure (OCI)

**Tools & Other:** Docker, Git, Lab Equipment (Oscilloscopes, Logic Analyzers, Lock-in Amplifiers), MS Office Suite

**Languages:** Spanish (Native), Catalan (Native), English (Fluent - C1), French (Basic)

## PROFESSIONAL EXPERIENCE

### Independent Projects & Skill Development

Spain

IoT Project Developer

Aug 2024 - Present

- **Self-Directed Learning:** Focused on deepening expertise in embedded systems, IoT, and cloud technologies relevant to modern connected devices.
- **Zephyr RTOS & nRF:** Developed firmware using C/C++ on the nRF9151 platform with Zephyr RTOS, gaining hands-on experience with low-power wireless SoC development for IoT applications.
- **Networking & Protocols:** Implemented and experimented with TCP/IP communication stacks for embedded applications. Gained familiarity with IoT communication concepts relevant to remote monitoring.
- **Hardware Design & Prototyping:** Developed a proof-of-concept IoT gas/particle meter targeting first-responder safety; designed hardware (KiCad) around an nRF SiP, integrating sensors and utilizing LTE-M for cellular data transmission.
- **Homelab & DevOps:** Established a personal development homelab utilizing Linux (Ubuntu/Debian) and Docker containers for efficient build and test environments.
- **Full-Stack IoT Development:** Architected the data pipeline for the IoT gas meter project: configured data ingestion via HiveMQ (MQTT broker) to a TimescaleDB database hosted on Oracle Cloud Infrastructure. Implemented server-side processing logic and enabled dashboard visualization through APIs. Also developed a project web interface/landing page using Next.js.
- **Technology Research:** Investigated emerging technologies and market opportunities within the IoT and public safety sectors.

### Freshape

Lausanne, CH

Junior Electronics Engineer

Aug 2023 - Aug 2024

- Contributed to the full lifecycle of an embedded consumer electronics device, leading PCB design (Altium), component selection, assembly, and rigorous testing/validation.
- Enhanced product reliability by upgrading legacy electronic components within existing PCB layouts.
- Collaborated within a 12-member team, interfacing with firmware developers utilizing Zephyr RTOS on STM32 microcontrollers for device bring-up and troubleshooting.
- Developed custom 3D-printed jigs (Onshape) to aid in prototyping and testing processes.

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## EPFL Advanced NEMS Laboratory

Research Assistant

Lausanne, CH

Feb 2023 - Jun 2023

- Designed and implemented low-noise transimpedance amplifier circuits for nanoelectromechanical systems.
- Created and assembled 4-layer PCBs using Altium to optimize signal integrity and minimize parasitic capacitances.
- Conducted comprehensive characterization with lock-in amplifiers for precise measurements.

## EPFL Rocket Team

Electronics Engineer

Lausanne, CH

Sep 2022 - Feb 2023

- Designed and manufactured the electronic scheme of a turbo pump for a bi-liquid rocket engine.
- Collaborated on the Hyperion Research Project, focusing on SRAD bi-liquid propellant rocket engines.

## Jabil Packaging Solutions

Automation Engineer Intern

Tortosa, Spain

Jun - Aug 2022

- Designed and engineered components for a fully automated factory workstation using Onshape CAD and COTS pneumatic actuators.
- Programmed industrial automation systems using Siemens TIA Portal and participated in the commissioning of factory lines.

## Sol Formación Academy

Electrical Systems Lecturer

Barcelona, Spain

Feb - Jun 2021

- Taught university-level Electrical Systems concepts to over 20 students per semester, achieving an average pass rate exceeding 90%.

## EDUCATION

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### Polytechnic University of Catalonia

Bachelor in Industrial Electronics and Automatic Control Engineering

Barcelona, Spain

Jun 2023

Relevant coursework: Project Management, Electric Systems, Engineering Design

Honors: Electric Systems, Thermodynamics and Heat Transfer

### École polytechnique fédérale de Lausanne, Exchange Year

Concentration in Supply Chain Management

Lausanne, CH

Jun 2023

Relevant Coursework: Product Management, Renewable Energy

## ADDITIONAL INFORMATION

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**Certificates:** CEFR C1 (English language certificate), B Driving License