



**Nil Munté Guerrero**

Telecommunications Engineer  
MSc in AI

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**ABOUT ME**

In my free time, I love hiking. I have been a leisure time monitor in my hometown's Esplai for many years, where I also have learned many activities related to management. I am also a professor at university, programming and physics teacher and Python Trainer. I'm always trying to get involved into local projects! I'm really into electric mobility – I have an electric vehicle and love following everything related to sustainable transport and new tech in that space.

**KEYWORDS**

- Embedded Software
- Telecommunications
- Radiofrequency
- Network Management
- Data Acquisition
- Data Science
- Software Engineering

**PROJECT LINKS**

-  [Traffic object detection](#)  
[Occupancy detection](#)
- [Radar Acconeer XM132](#)  
[Radar Texas AWR1642](#)  
[Radar Texas IWR1443](#)  
[Sincronization Gran Canaria \[Julia, Fortran code\]](#)

**EXPERIENCE**

**ADAS & AV Functions Developer Engineer. Project Manager**

May 4 – Now

Applus+ IDIADA

- Developed and ADAS EuroNCAP testing project on evaluating an AI-camera system, from client meetings (*KPI definition, report and testing discussion*) to implementation (*DevOps: CI/CD pipeline, test automation, infr. management*).
- Developed the system to capture the sensor information and trigger the tests together with the software team (*Embedded Software, CAN, C++, Python, Linux*).
- Developed a reporting tool to show the results to client, with high impact result (*HTML, CSS, JavaScript -React-, Python*).
- Directed as **Project Manager** two European Projects in the Autonomous Mobility field (*AITHENA, AIGGREGATE*). AITHENA involved the coordination of several companies across Europe, successfully reaching the milestones of the project.

**R&D Engineer**

Mar 21 – Aug 23

NEPHOS LAB. Universitat Rovira i Virgili (URV)

- Focused on Embedded Systems and Microcontrollers (*PIC, ESP32, Silicon Labs RadioBoards, Arduino*).
- Using a different Texas Instruments' millimeter-wave *FMCW radars* and a *Raspberry Pi*, developed an occupancy detection system for vehicles. Designed and implemented a hand-gesture detection and classification system (*MATLAB, Python*) [1][2].

**R&D Engineer**

Sep 23 – Apr 24

ALEPHSYS LAB. Universitat Rovira i Virgili (URV)

- Focused on Deep Learning and Complex Networks algorithms.
- Studied and developed different Supervised and Unsupervised learning algorithms (Neural Networks, SVM, BP, etc.) (*Java, C, Python, Julia*).
- Studied and implemented an algorithm, using ODEs, for describing a dynamical model for Power Grid Frequency Fluctuations, analysing and using real data from 'Red Eléctrica' and other public sources (*Linux, Fortran*).
- Hardware implementation (CPU/GPU management)

**Software and Hardware Engineer Intern**

Nov 20 – Mar 21

Generation RFID.

- Optimized the power consumption of an HF-RFID embedded system prototype using *Simplicity Studio* and the *Silicon Labs Blue Gecko Radio Board* to measure and analyze power consumption (*C, Python, Scons, Bootloader*).

**Associate Professor**

Sep 21 - Now

Universitat Rovira i Virgili (URV)

- Taught the following [courses](#) on the Telecommunications Degree: IoT (*WiFi, Zigbee, Bluetooth with Arduino and Simplicity Studio*), FPGA and Microcontrollers programming (*VHDL, C, ensemble language*) and communications (*MATLAB*).

**Python Trainer**

Apr 24 – Now

Acadèmia Gaudí

- Designed and taught two Python Courses (Introduction and Advanced Python) of 6h duration.

**EDUCATION**

**Master's degree in computer security and Artificial Intelligence**

2022/2023

Universitat Rovira i Virgili (URV). Tarragona (9.42/10, 8 Honors).

**Telecommunications Engineering**

2017/2021

Universitat Rovira i Virgili (URV). Tarragona (9.01/10, 16 Honors).

**SKILLSET**

**Programming Frameworks.** Git, ROS, CAN, C++, C, Python, MATLAB, VHDL, Ensemble Language, Fortran. Operative Systems and Tools: Linux, Simplicity Studio, Xilinx ISE.

**Hardware programming & Embedded Systems.** PIC microcontrollers, Texas Instruments' millimeter-wave FMCW radars, FPGA development, Silicon Labs Radio Boards, Arduino.

**Machine Learning & Data science.** SciPy, Keras, PyTorch, Tensorflow, OpenCV, Yolo.

**Databases & Data Management.** SQLite, MySQL, MongoDB

**Other skills.** KPI definition, Project Management.

[Languages](#). English Advanced Level (CAE-C1), Spanish (Native), Catalan (Native).

## PUBLICATIONS

- [1] Munte, N., Lazaro, A., Villarino, R., & Girbau, D. (2022). [Vehicle occupancy detector based on FMCW mm-wave radar at 77 GHz](#). IEEE Sensors Journal, 22(24), 24504-24515.
- [2] Lazaro, A., Munte, N., Villarino, R., & Girbau, D. (2023, November). [In-Vehicle Monitoring Based on a Low-Cost mm-Wave Radar at 60 GHz](#). In 2023 SBMO/IEEE MTT-S International Microwave and Optoelectronics Conference (IMOC) (pp. 241-243). IEEE.

## COURSES

MBSE in practice using ARCADIA and CAPELLA. Samares Engineering. 2025.

Project Manager Course. Abilities to manage and handle as Project Manager Applus+ IDIADA projects. APPLUS+ IDIADA. 2024.

## AWARDS

[Extraordinary Final Degree Award](#) in Telecommunications Systems and Services Engineering in recognition of the best students of the 2020-2021 graduating class. COETCC. Universitat Rovira i Virgili (URV). 2022.

[2nd COITT Award "Future of Telecommunications"](#) - TELECOMMUNICATION SYSTEMS ENGINEERING CATEGORY. Official College of Telecommunication Engineers (COITT). COITT. 2022.

**Youth Research Awards ([PRJ 2017](#))** with the research work "Electronic Noses - Smell on a Chip". Generalitat de Catalunya. 2017.