



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 CAPPELLA. 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.