Nil Munté Guerrero

Telecommunications Engineer
MSc in AI

Barcelona
+34 628119680
nilmunte@gmail.com
nil-munte.github.io
www.linkedin.com/in/nilmunte

ABOUT ME

With a Telecommunications Engineering degree, a Master's in Artificial Intelligence, and hands-on experience in embedded systems, software development, data-driven applications and education, I bring both technical depth and project management skills to deliver impactful solutions. I'm always trying to get involved into local projects and I'm really into electric mobility

KEYWORDS

Project Management

Telecommunications

Radiofrequency

Network Management

Data Acquisition

Data Science

Software Engineering

Embedded Software

PROJECT LINKS

Traffic object detection
Ocuppancy 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 24 – Now
Applus+ IDIADA

- Developed and coordinated an ADAS EuroNCAP testing project on evaluating an AI-camera system, from client meetings (*KPI definition, report and testing discussion*) to implementation (*Proj. Management*, *DevOps*: CI/CD pipeline, test automation).
- Configured the system to capture the sensor information and trigger the tests together with the software team (*Embedded Software, CAN, C++, Python, Linux*).
- Worked in a Computer Vision ADAS project, integrating data from different sensors with CNNs and working with different algorithms (YOLO, segmentation, tracking).
- Created 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
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, analyising and using real data from 'Red Eléctrica' and other public sources (*Linux, Fortran*).
- Hardware implementation (Linux management)

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].

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).
- Class representative in the 2nd, 3rd and 4th year

COURSES

AWS Cloud Practitioner. URV Microcredentials. 2025.

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.

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, Numpy, Pandas, Keras, PyTorch, Tensorflow, OpenCV, Yolo, GPTs (Gemini, OpeAI, Llama), IA Agents (n8n).

Databases & Data Management. AWS, 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.

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.