



# JAVIER GARCÍA

## EMBEDDED ELECTRONIC ENGINEER DSP, AI AND POWER ELECTRONICS

### PROFESSIONAL SUMMARY

Passionate and committed, with a strong technical and creative profile. Over 3 years of experience in electronics and embedded systems. My interest in audio led me to specialize in DSP. A Master's in Artificial Intelligence (AI) enhances my technical skill set. My background covers both HW and SW development for consumer products, power converters and research devices.

### SKILLS

Programming languages: C, Python, C++, MatLab.

DSP & Audio: Digital filter design (fixed/float, CMSIS-DSP), Convolution, FFT, room acoustics measurement, speaker modeling.

Embedded Systems: STM32 Cortex-M, ESP32, TI C2000, FREERTOS, bare-metal.

Peripherals: Experienced with ADCs, DMA, UART, I2C, I2S and Cache.

Deep Learning tools: TensorFlow, Pytorch, Accelerate.

Version Control tools: Git, Github.

Other SW tools: Docker, Apptainer, SSH, Linux.

IDEs: Eclipse (STM32CubeIDE, Code Composer), VSCode.

CAD: Altium, CadStar, Fusion360.

Hardware Development: Analog circuit simulation (LTSpice), PCB design, component selection, HW validation, SMD soldering.

### WORK EXPERIENCE

#### Embedded DSP Specialist / Freelance

01/2024 - now

Development of an innovative real-time reverb cancelling embedded system for speaker correction, using Deep Learning and Reinforcement Learning.

- Full system design in STM32H7 (ARM), from concept to deployment.
- Bluetooth audio (QCC5125). Optimized DSP algorithms for 8x performance.
- Built a CNN with TensorFlow for audio analysis and synthesis.

Development of a wireless sensing system using AI and RF.

Design, test and implementation of DSP pipelines in the system.

- Details of this project are confidential, under protection of NDA.

#### Signal & Hardware Engineer / [ZIGOR](#)

Valencia - 10/2022 - 01/2024

Developed HW&SW for power distribution network converters.

- Signal and EMI filter design, simulation and implementation. Digital filter programming on ARM microcontrollers.
- PCB design, up to 20KV isolation barriers, IPC-2221, GIGABIT and USB.
- Hardware simulation, component selection, lab testing.

#### Embedded Software Intern / [Universitat Politècnica de València](#)

Valencia - 04/2022 - 08/2022

Participated in the development of various research devices. Built a net of interconnected Microcontrollers and that feature's FW library.

- DSP and microcontroller programming (Texas Instruments, ESP32).
- Communications (I2C, MODBUS TCP/IP, RS485, UART).
- Windows app programming in C++

### EDUCATION

Bachelor of Engineering  
Industrial Electronics and  
Automation Engineering  
*Universitat Politècnica de València*  
2017 - 2022

Master of Engineering  
Artificial Intelligence  
*Universidad de Murcia*  
2024 - 2025

### CERTIFICATES

Digital Signal Processing (DSP)  
Specialization  
*École Polytechnique Fédérale de  
Lausanne*  
[View certificate](#)

### LANGUAGES

Spanish: Native  
English: Full Professional  
proficiency  
French: Intermediate

### HOBBIES

Audio & Music: Over 10 years of  
music production, instrument  
performance since age 8.

Wellness: Strength training,  
healthy diet, snowboarding, and  
skiing