Roberto Ibáñez Mingarro (21 y.o.)

Electronics & Embedded Systems Engineering Student

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Education

MSc in Electronics and Automation Engineering — INSA Toulouse (France) Sept. 2024 – Present

- Expected graduation: September 2026.
- **Specialization in Embedded Systems.**
- Focus on advanced circuit design and control systems.
- Strong adaptability to complex engineering environments.

BSc in Industrial Technologies Engineering — Universitat Jaume I (Spain) Sept. 2022 – Present

- Expected graduation: September 2026.
- **ARA Program Member**: High Academic Performance program with limited enrollment, small cohorts, and strong emphasis on research and instruction in English.

MSc in Industrial Engineering — Universitat Jaume I (Spain) Sept. 2026 – Planned

- Expected start: September 2026; **admission confirmed** through the INSA Toulouse–UJI double-degree pathway.

Experience and Projects

Reverse engineering of MP4 player (SPC Int. 8488, from 2014) — Personal project Jan. 2026 – Present
Design & fabrication of a digital wattmeter with PCB (KiCad) — INSA Toulouse Sept. 2025 – Nov. 2025
Autonomous sailboat control system using STM32 (embedded) — INSA Toulouse Sept. 2025 – Nov. 2025
Design & control of an autonomous car for NXP Cup (embedded) — INSA Toulouse Sept. 2025 – Present
Design and simulation of an 8-bit CPU in VHDL (RTL architecture) — INSA Toulouse Sept. 2025 – Nov. 2025
Independent development of an IDE using Python & PySide6 — Personal project Jun. 2025 – Present
STEM Tutor (Mathematics & Physics for High School) — Academia Romar (Burriana) Oct. 2022 – Jun. 2024

Technical Skills

Test, measurement and validation: Instrumentation, Data Acquisition, Experimental Testing, Result Analysis
PCB design and circuit simulation: LTSpice, KiCad, Simulink, Proteus 9 Professional
Development platforms: STM32 (NUCLEO F103-RB), BASYS 3 (AMD FPGA), ESP32
Programming languages: C, C++, Python, ARM Assembly (Cortex-M3), VHDL, MATLAB, Java, SQL, R
Computer-Aided Engineering and Design (CAD): SolidWorks, AutoCAD, WorkingModel2D, Ansys Granta
Office and documentation tools: LaTeX (Overleaf), Microsoft Office, LibreOffice, Google Workspace

Languages

English: C1 **French:** B2 **Valencian:** C1 **Spanish:** Native

Additional Information

Valid driving license and own vehicle. Willingness to travel. Portfolio available upon request.