# 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.