



David Arnaiz

Embedded Software Engineer

📍 Barcelona,
Spain

✉ electronplant@gmail.com

🌐 [ElectronPlant](#)

🌐 [david-arnaiz-martinez](#)

Keywords: Embedded System Engineer, C Developer, Electronic Engineer, RTOS application designer

💡 Skills

- Programming Languages
 - Proficient: C.
 - Fluent: C++, Python, Rust.
 - Interm: LaTeX, Assembly, shell.
 - Basic: VHDL.
- Serial protocols (I2C, SPI, UART)
- Development Tools:
 - IDEs: VS Code, Eclipse.
 - EDA: KiCad, Cadence.
 - Git.
 - Unit Testing.
- Debugging Tools:
 - Oscilloscopes.
 - Logic analyzers.
 - Power monitors.
 - GDB.
- Agile specifically Scrum.
- Languages: Spanish, English (B2).

🏆 Achievements

- Best academic record award (2018).
- Cambridge First Certificate in English.
- HP R&D Academy program
- Industrial Doctorate program (2019 DI 075).
- STM32 Workshop Attendance.
- IEC 62368-1 UL course Attendance.

📖 Publications

- [1] [Arnaiz et al. \(2021\). Data Relevance-Aware Dynamic Sensing Technique with Battery Lifetime Guarantee for Wireless Sensor Nodes. DCIS2021. IEEE.](#)
- [2] [Arnaiz et al. \(2023\). Relating Context- and Self- Awareness in the Internet of Things. CoopIS \(pp. 384-402\).Springer.](#)
- [3] [Arnaiz et al. \(2023\). On Anomaly-Aware Structural Health Monitoring at the Extreme Edge. IEEE Access.](#)
- [4] [Arnaiz et al. \(2024\). Energy and relevance-aware adaptive monitoring method for wireless sensor nodes with hard energy constraints. Integration. The VLSI journal, 94\(article 102097\).](#)

👤 Profile

- Embedded system engineer with 6+ years of experience.
- Ph.D. in self-aware wireless sensor nodes.
- Proficient in C; with C++, Rust, Python, LaTeX and assembly experience.
- Proven track record with:
 - Defining embedded software architectures.
 - C drivers and Real-time FreeRTOS applications.
 - Mixed-signal electronic schematic design.
- Team player, working as part of international and multidisciplinary teams.
- Great communication, coordination and interpersonal skills.
- Passionate about continuous growth, innovation and contributing towards larger projects.

🧰 Work Experience

Embedded Firmware Engineer [Dec. 2019 - Present]

Worldsensing 📍 Barcelona, Spain

- Defined and developed the FW architecture for the vibration node featuring a configurable data processing pipeline, and integrating different firmware modules and RTOS tasks.
- Developed multiple sensor drivers, FW modules, and complete features for LoRa-based wireless sensor nodes.

Electronic Designer [Oct. 2018 - Dec. 2019]

Rolls-Royce - Control Systems 📍 Birmingham, UK

- Designed lightning strike protection circuits for aircraft electronics.
- Wrote hardware design documents and guidelines.
- Hands-on lab testing.

R&D Electronic Engineer [Sept. 2016 - Sept. 2018]

HP - Large Format Printing 📍 Barcelona, Spain

- Managed electronic schematic designs for printer mechatronics and interface PCBs based on STM32 microcontrollers and featuring SPI, I2C and UART serial interfaces, PWM outputs custom power supply sources.
- Developed custom HW and FW prototypes for inductive, optic sensing.
- Handled printer self-diagnostics at the PCB level.

🎓 Education

Ph.D. in Electronic Engineering [Sept. 2019 - July. 2024]

Polytechnic University of Cataluña (UPC) 📍 Barcelona, Spain

- Grade of excellence.

M.Sc. in Electronic Engineering [Sept. 2016 - Sept. 2018]

Polytechnic University of Cataluña (UPC) 📍 Barcelona, Spain

- GPA of 3.752 (out of 4).

B.Sc. in Electronic Engineering [Sept. 2012 - Sept. 2016]

University of Granada (UGR) 📍 Granada, Spain

- GPA of 3.491 (out of 4).