Afonso Muralha

📍 Lisbon, Portugal   ✉ afonsomuralha@gmail.com   🔗 afonsomuralha.com

 github.com/afonsus1997   📟 CS7BDF

Education

2019 – 2023   **Instituto Superior Técnico**, MSc/BSc in Electronics Engineering – Lisbon
- Thesis: Cubesat FPGA-based radio communications (scored 20/20)
- 2018-2019: Secretary at N3E student group
- 2017-2019: Coordinator at N3E Robotics group

Experience and Research

Feb 2023 – present   **Electronics Engineer**, Spin.Works S.A. – Lisbon
- Mixed-signal Hardware design (Eagle CAD, KiCAD)
- HDL development and testing on Xilinx platforms
- HDL CI/CD deployment and management
- Embedded C development (applications/drivers)

2019 – 2025   **Researcher**, ISTSAT-1 / IST Nanosatlab research group – Lisbon
- Responsible for the EGSE (Electronic Ground Support Equipment) hardware design and development (Altium Designer)
- Planning the ISTSAT-1 integration and qualification campaign alongside ESA's representatives
- Execution of the ISTSAT-1 integration, qualification and launch campaign
- Non-conformity management, discussion and resolution
- Successful satellite launch on the Ariane 6 maiden flight

2020   **Researcher**, Vibration Test Campaign at ESA Cubesat Support Facility – Redu, Belgium
- Responsible for hardware tasks and tests

2019   **Researcher**, Battery Qualification Campaign at ESA Cubesat Support Facility – Redu, Belgium
- Responsible for the battery tester and logger software developed in Labview

Relevant Skills

Languages: C, Python, Verilog, UVM, Bash scripting

HDL Platforms: Xilinx

E-CAD: Altium designer, KiCAD, EAGE CAD

Electronics: Competent in SMD and THD Soldering and reworking

Prototyping and iterative design: 3D Printing (FDM/SLA), 3D Modeling (Fusion360, Solidworks)

Languages

Portuguese: Native speaker

English: Fluent

Communication skills

• Speaker at 3D Printing Workshops "3D Printing 101 – From Design to Reality"
• Instructor at Arduino classes for beginners
• Instructor in workshops at N3E and altLab

Featured Projects

2023 – 2024 **Inércia 2023/2024 Floppy electronic badge** ↗

Open-source hardware badge for Inércia demoparty

• Small-scale production and deployment
• JLCPCB sponsorship
• Designed in KiCAD

2021 **Q-Dice** ↗

Electronic dice roller based on particle detection via Geiger-Müller tube

• Designed in Altium designer

2020 **Arktika FPGA** ↗

Open source hardware Lattice FPGA development board

• Designed in KiCAD

2019 **Pixels Camp Matrix badge** ↗

Wi-Fi enabled LED matrix badge for Pixels Camp V2

• Designed in Altium designer
• PCBWAY sponsorship

2018 **"Duckuino" HID Emulator and Payload Injector** ↗

Feature-rich "USB Rubber Ducky" Clone

• Designed in Altium designer

Multi-Cultural Enrichment Activities

2014 **"SNACK" International Exchange Program** – **Svendbog, Denmark**

2013 **"Changing Perspectives" International Exchange Program** – **Sintra, Portugal**

2012 **"Beat Poverty" International Exchange Program** – **Svendbog, Denmark**

Voluteering

2016 **School Support Lessons for Children in Risk at "Casa das Cores"** – **Lisboa, Portugal**

Other Interests

• Amateur radio (Cat2) and satellite tracking
• Astro/Photography
• 3D Printing
• Hobby Electronics
• Self-hosting
• Music theory, jazz, piano