



# Afonso Muralha

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## Education

2015 – 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 – Svendborg, Denmark**

2013 **“Changing Perspectives” International Exchange Program – Sintra, Portugal**

2012 **“Beat Poverty” International Exchange Program – Svendborg, Denmark**

## Volunteering

2024 – 2025 **Volunteer at Inércia Demoparty (buildup, AV ops) – Almada, Portugal**

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