

# Afonso Muralha

Lisbon, Portugal

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CS7BDF

## Education

**MSc/ Instituto Superior Técnico**, Electronics Engineering

Lisbon

**BSc**

- Thesis: Cubesat FPGA-based radio communications (scored 20/20)

2019 – 2023

- 2018-2019: Secretary at N3E student group
- 2017-2019: Coordinator at N3E Robotics group

## Experience and Research

**Spin.Works S.A.**, Electronics Engineer

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)

Feb 2023 – present

**ISTSAT-1 / IST Nanosatlab**, Electronics Engineer 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

2019 – 2025

**Vibration Test Campaign at ESA Cubesat Support Facility**, Electronics Engineer

Redu, Belgium

- Responsible for hardware tasks and tests

2020

**Battery Qualification Campaign at ESA Cubesat Support Facility**, Electronics Engineer

Redu, Belgium

- Responsible for the battery tester and logger software developed in Labview

2019

## 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

**Inércia 2023/2024 Floppy electronic badge**

2023 – 2024

Open-source hardware badge for Inércia demoparty

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

<b><a href="#">Q-Dice</a></b>	2021
Electronic dice roller based on particle detection via Geiger-Müller tube	
• Designed in Altium designer	
<b><a href="#">Arktika FPGA</a></b>	2020
Open source hardware Lattice FPGA development board	
• Designed in KiCAD	
<b><a href="#">Pixels Camp Matrix badge</a></b>	2019
Wi-Fi enabled LED matrix badge for Pixels Camp V2	
• Designed in Altium designer	
• PCBWAY sponsorship	
<b><a href="#">“Duckuino” HID Emulator and Payload Injector</a></b>	2018
Feature-rich “USB Rubber Ducky” Clone	
• Designed in Altium designer	
• PCBWAY sponsorship	

## **Selected Honors**

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- First place at Inércia Demoparty photography competition (2022)
- Ranked top 3 with Lightning Cashback project at Chainhack 2019
- 1st Place on the 2018 Local Hack day 12h Hackathon (2028)
- 4 Merit Ribbons for the “Garra Makey” Project at Lisbon Maker Fair (2016)

## **Multi-Cultural Enrichment Activities**

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<b>“SNACK” International Exchange Program</b>	Svendborg, Denmark 2014
<b>“Changing Perspectives” International Exchange Program</b>	Sintra, Portugal 2013
<b>“Beat Poverty” International Exchange Program</b>	Svendborg, Denmark 2012

## **Voluteering**

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<b>School Support Lessons for Children in Risk at ”Casa das Cores”</b>	Lisboa, Portugak 2016
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## **Other Interests**

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