

DIOGO PERALTA CORDEIRO

Software engineer focused on backend systems, infrastructure and product delivery

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— PROFILE

Computer scientist and software engineer completing a PhD in Computer Engineering, with C++ as the main language throughout the doctorate and 8+ years across open-source platforms, dependable systems, spatial interaction, mentoring and technical teaching.

— TECHNICAL SKILLS

Core programming

- **C++:** primary language throughout the PhD, including spatial-interaction runtimes and systems architecture.
- PHP and SQL: production applications, open-source platforms and data models.
- Python: research, experimentation, data analysis and tooling.
- C, Java, JavaScript, Haskell and Prolog: systems, web and computer-science projects.
- Bash, Linux and Git: daily development and deployment.

Data, optimisation & research

- Algorithms, data structures, optimisation: CS/research foundations
- Computer vision and machine perception: doctoral/research work
- Experimental design and technical reporting: research delivery
- LaTeX and scientific writing: papers/thesis

Delivery & leadership

- Technical architecture and roadmap ownership: CTO/open-source/founder roles
- Mentoring, code review and documentation: students/contributors
- Stakeholder communication and technical training: client/research settings
- Agile/project planning, risk and milestones: PM foundations

— EXPERIENCE

Software Engineer / Applied Scientist

2026–present

Spectaria - spatial interaction platform for museums

Designed a four-layer spatial-interaction platform for museums—Pro-Cam units, physical controls, web authoring and privacy-aware analytics—to move doctoral prototypes toward repeatable installations.

Full-stack Software Engineer / Systems Analyst

2022–2025

Apontamento Cordial

Delivered internal PHP/SQL systems across four layers—data models, backend logic, administration and reporting—turning operational constraints into maintainable workflows and training.

Lead Software Engineer / Maintainer

2019–2022

GNU social — free-software social networking platform

Led the EU Horizon 2020-funded GNU social v3 rewrite, replacing legacy PEAR-era foundations with Symfony while coordinating architecture, accessibility, plugins, releases and contributor delivery.

Mentor / Director of Studies

2019–2021

GNU social

Mentored 13 students across Google Summer of Code, a community-funded programme and FEUP: four GSoC developers, one community participant and eight software-engineering students.

Co-founder & CTO

2020–2022

Kult — venture-backed social-discovery startup (UPTEC)

Co-founded and led a social-discovery startup as CTO, securing two competitive grants while owning product architecture, the engineering roadmap and delivery at UPTEC.

On-Board Data Handling — ANTAEUS CubeSat

2022–2023

ANTAEUS CubeSat / LIP i-Astro / UC, UBI and University of Porto

Applied dependable-computing and data-handling principles to a 2U CubeSat mission pre-selected for ESA's Fly Your Satellite Design Booster programme.

Research Intern, Multimedia Communications Technologies	Jun–Jul 2022
<i>Centre for Telecommunications and Multimedia (CTM), INESC TEC</i>	
At INESC TEC's Centre for Telecommunications and Multimedia, surveyed parametric 3D human-body models and built a reproducible comparison pipeline; awarded the highest-ranked work in the MCT category of Summer@CTM 2022.	
Robotics Engineer (research internship)	Aug–Oct 2020
<i>Underwater Systems and Technology Laboratory (LSTS), FEUP</i>	
At LSTS/FEUP, developed a low-cost autonomous surface vehicle and docking approach under an FCT research grant, combining vector-field guidance, camera tracking, IMU, GPS and Raspberry Pi 4.	

— EDUCATION

PhD in Electrical and Computer Engineering	2022–present
<i>Faculty of Engineering, University of Porto</i>	
Doctoral research in deployable spatial augmented reality and multi-application systems, implemented primarily in C++ throughout the PhD; supervised by Prof. João Tasso de Figueiredo Borges de Sousa.	
BSc in Computer Science	2017–2022
<i>Faculty of Sciences, University of Porto</i>	
Computer Science degree with substantial mathematics, systems, theory, programming, AI, security, networking, databases and interaction-design foundations.	

— SPECIALISED TRAINING

CubeSat Concurrent Engineering Workshop 2023	2023
<i>European Space Agency (ESA) Academy, ESA ESEC</i>	
Concurrent design of a CubeSat mission using COMET, guided by ESA experts.	
Fly Your Satellite! Design Booster – Training Week	2022
<i>European Space Agency (ESA) Academy, ESA ESTEC</i>	
Spacecraft design and project management training attended as part of ANTAEUS, a prospective FYS! Portuguese team.	

— SUMMER & WINTER SCHOOLS

Cognitive and Affective Neurophysiology Summer School	2023
<i>Faculty of Psychology and Education Sciences, University of Porto</i>	
36-hour course on acquisition, processing and analysis of the EEG signal, at the Laboratory of Neuropsychophysiology.	
SYSTEC Summer School – Estimation, Control, Optimisation and Data Science	2022
<i>Faculty of Engineering, University of Porto</i>	
Applications of cyber-physical systems in robotics, energy, mobility, production systems and health.	
LSTS Summer School – Robotics for Ocean Observation	Aug–Sep 2020
<i>Underwater Systems and Technology Laboratory (LSTS), FEUP</i>	
LSTS summer school on maritime robotics: sensors, vehicles, control, underwater communications, multi-vehicle planning and the LSTS/OceanScan toolchain.	

— CERTIFICATIONS & MICRO-CREDENTIALS

Cambridge English Level 2 Certificate in ESOL International – C1 (CEFR)	2021
<i>Cambridge Assessment English</i>	
Credential B6703928. Reading 200 (A/C2) · Use of English 201 (A/C2) · Writing 190 · Listening 193 · Speaking 195.	
Pedagogical Competences Certificate (CCP)	2024
<i>IEFP – Portuguese Employment and Vocational Training Institute, and CRIAP Institute</i>	
Trainer-of-trainers certification. Final grade: 5 – Excellent. Credential F751769/2024.	
Quadcopter Simulation and Control (droneX)	2021
<i>Instituto Superior Técnico, University of Lisbon (MOOC Técnico)</i>	
Quad-rotor modelling, subsystem analysis in Scilab/Xcos, and motion control and stabilisation.	
Project Management Specialization	2023
<i>Google, via Coursera</i>	
Project initiation, planning, execution, Agile methods, risk, stakeholder communication and delivery habits for practical project management.	

— SEMINARS, PRESENTATIONS & WORKSHOPS

GNU social v3 and Unbound Actors	2022
<i>15th U.Porto Young Researchers Meeting (IJUP)</i>	
Presentation of FEP-2100 – distinguished as Best Oral Communication in Engineering.	
Introduction to Git: Mastering Version Control	2023
<i>Symposium on Electrical and Computer Engineering, DCE23 – Doctoral Congress in Engineering, University of Porto</i>	
Hands-on workshop on version control, from rsync/diff/patch and RCS/SVN history to Git internals and etiquette.	

Algorithms – Documentary TV Series, Ep. 4: Public Space

2022

RTP 3, television

Discussed the impact of algorithmic decisions on the content we consume and the public discussions we have.

— HONOURS, AWARDS & GRANTS

Best work – Multimedia Communications Technologies, Summer@CTM 2022

2022

INESC TEC

My internship on parametric human-body models was distinguished as the best of the MCT category by the jury of the Summer@CTM 2022 internship programme.

Best Oral Communication – Engineering

2022

15th U.Porto Young Researchers Meeting (IJUP 2022)

“GNU social v3 and Unbound Actors” was distinguished as the best oral communication in the Engineering area.

NGIO Discovery Fund grant

2021

European Union Horizon 2020 – grant agreement No 825322

Funding awarded through the EU's Horizon 2020 research and innovation programme (2021-02 to 2022-02) to lead the development of GNU social v3.

— SOFTWARE & PROJECTS

SotA Lens

2026

An open-source toolkit for exploratory literature mapping through citation networks. A Python pipeline turns scholarly metadata into inspectable graphs and browser-ready datasets; a static explorer keeps local files in the browser.

MinuteArc

16 November 2025

A focused weekly time and task tracker with goals, streaks, manual corrections, a live timer, reports, exports and team workspaces. The current launch has no billing, paywall or trial countdown.

Virtual Glasses Try-On

Spring 2023

PhD year 0 · Spring term

A real-time eyewear try-on built from one TypeScript codebase. MediaPipe landmarks drive frame position and perspective while face-aware occlusion keeps the temple arms behind the head.

Multi-application spatial AR

PhD, 2022–present

My PhD work explores multi-application spatial augmented reality, with C++ as the main implementation language.

— PUBLICATIONS & WRITING

Little Coders

2026

Diokin Owl and Diogo Peralta Cordeiro

A playful introduction to coding, robots, algorithms, loops, binary, pixels, networks and password safety. Available in English, Portuguese, Spanish and French.