Sofia Santos

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Experience

Junior Software Engineer
Critical Manufacturing
Jan — Oct 2025 Maia, PT (Hybrid)

- Maintained the CMF MES Platform, used by various Industry 4.0 manufacturers worldwide.
- Fixed critical performance bugs and memory leaks.
- Added new QoL features and testing coverage.
- Technologies used: .NET, Angular, SQL Server, Kubernetes, Node.js, Azure DevOps, etc.

Invited Assistant
Universidade do Minho
Oct 2022 — Present Braga, PT

- Lecturer of Functional Programming, Imperative Programming, and Language Processing classes, among others.
- Co-supervisor of Master Dissertations.

Researcher
HASLab / INESC TEC
2023 — 2026 Braga / Porto, PT

- Collaborated on various projects, including research on Automatic Program Repair (APR) and Infrastructure as Code (IaC).
- Research grants with one paper published and presented at APR 2024.

Software Development Intern
Subvisual
Jun — Aug 2021 Remote

- Developed a full-stack application to store and manage internal employee data.
- Technologies used: Ruby on Rails, Tailwind, PostgreSQL, Figma, Git, etc.

(Some) Personal Projects

ACE Grader

- Automatic grading tool for programming exercises.
- Full-stack Phoenix web application.
- Uses static and dynamic analysis for grading.

OCRticle

- Performs OCR while maintaining text structure.
- Python desktop application, Tesseract OCR engine.

Site PF

- Astro web app for hosting Functional Programming exercise and test resolutions with explanations.
- Used by hundreds of students every year.

Education

Integrated Master's in Informatics Engineering
Universidade do Minho

- GPA of 17 out of 20 (ECTS Grade A — Top 10%).
- Specialization in Machine Learning and Natural Language Processing.
- Master Dissertation — "Automatic Grading of Programming Exercises" — grade 18 of 20.

Skills

Programming Languages

- **Proficient**: Python, Elixir, JavaScript/TypeScript, HTML/CSS, Haskell, C#.
- **Familiar**: C/C++, Java, Ruby, Rust.

Full-stack Development

- React, Angular, Tailwind, Svelte, Alpine, jQuery, ...
- Phoenix, Ruby on Rails, SvelteKit, Django, Astro, ...
- Node.js, Bun.js, .NET, Express, ...

Database Management

- MySQL, PostgreSQL, SQL Server, MongoDB, ...

Natural Language Processing

- Lex/Yacc, spaCy, NLTK, Tesseract OCR, ...

DevOps

- Docker, Kubernetes, Podman, Ansible, Selenium, ...

Other Technologies

- Git, Linux, Figma, Azure DevOps, Grafana, ...

Other Skills

- Agile, Scrum, public speaking, teaching, ...

Conferences

Speaker
APR 2024
QueerJS 2023
SLATE'23

Local Organization Chair
IFL 2023

Peer Reviewer
FLOPS 2024

Languages

- **Native:** Portuguese
- **Fluent:** English

Others

- Former co-director of CeSIUM's Pedagogical Department.
- Published three conference papers, two of those as the main author (ORCID 0009-0003-5510-9556).