

AFONSO PINTO CARDOSO RAFAEL

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EDUCATION

Masters in Computer Science, Faculty of Sciences of the University of Lisbon (dropout)

- Relevant Coursework: Compilation Techniques, Domain Specific Languages, Quantum Computing.

B.S. in Geospatial Engineering, Faculty of Sciences of the University of Lisbon

2016 - 2020

Drumming, International Drum Academy

2016 - 2020

SKILLS

Programming languages

C, C++, Fortran, LLVM, Haskell, Lisp, Typescript, Python

Technical Skills

Compiler design and implementation, Web Development, Data processing

Soft Skills

Enjoy speaking with people, Enjoy presentations and public speaking

Communication languages

Português (nativo), Español (avanzado, uso profesional),

English (advanced, professional use)

EXPERIENCE

Compiler Researcher/Engineer

Nov 2023 - Now

Barcelona Supercomputing Center

Barcelona, ES

- Work on loop fusion within the LLVM infrastructure.
- Benchmark and test the loop fusion pass.
- Help fight back against “bit rotting” (fix and patch forgotten code).
- Help with bugs in LLVM (example: [issue](#))

Web Developer

July 2023 - Nov 2023

Digital MZN

Lisbon, PT

- Help with the development of the arms website (React Native & Typescript).
- Help maintain python environments of other members of the company.

Software Developer (Freelancing)

April 2023 - May 2023

Bynd

Lisbon, PT

- Build a web crawler in python to collect data on companies to be displayed on dashboard.
- Using selenium as a dependency to allow interaction between the crawler and the web page.

Researcher (Intern)

September 2022 - March 2023

IMDEA Software

Madrid, ES

- Build relational benchmarks for Liquid Haskell, a compiler plugin that extends Haskell’s type system with refinement types.
- Wrote a paper section describing the benchmarks.
- Contributed with solving a bug in liquid-fixpoint ([Pull Request](#))

Research Fellowship

January 2022 - July 2022

LASIGE

Lisbon, PT

- [Freest](#) is a functional programming language that uses session types for safer communication.
- Developed a compiler for the Freest language, targeting JavaScript (Built with Haskell).
- Built a test suite for the compiler.
- [Best Poster](#) - 1st, LASIGE Workshop’22.

Summer with science (Research Fellowship)
LASIGE

August 2021
Lisbon, PT

- Built programs with Freest that later got into the testing suite.
- Found bugs and reporting them during development.

Software Developer (Intern)
Think Future

2019 - 2020
Lisbon, PT

- Built a system to manage aerial information for control of drone flight (Python).

Data Science (Intern)
ITC Faculty of Geo-information Science and Earth Observation

August 2019 - September 2019
Enschede, NL

- Wrote data processing code using Dask, an open-source Python library for parallel computing.
- Lectured practical classes on the Institute.
- Processed geographical information for decision making.

OUTSIDE OF JOB

Discord Admin/Event Manager
DevPT

2020 - Present
Lisbon, PT

- Participated in the devPT talks as Manager.
- Participated in the devPT as Speaker ([Eu uso Emacs, roast me.](#))
- Moderate and Help make decisions on the Discord platform.
- Help manage social media.

Open Source Contributor

- Fix warnings in [sclang mode \(pull request\)](#).

MUSIC

Drummer
AZMA

2019 - 2023
Lisbon, PT

- Play drums and help compose the songs.
- Help manage the social accounts and project contacts.
- Participated on the recording of songs like: [Akadom](#)

Guitarist
Split Objects

2022 - 2023
Lisbon, PT

- Support guitarist for the band.
- Help with gigs.

Drummer
PodPop

2017 - 2019
Lisbon, PT

- Played drums and helped compose music.
- Helped record the video clips.
- Participated on the recording of songs like: [Is It Love Or Sacrifice](#), [BlackOut](#), [Spoon Of The Gods](#).

Guitarist
Why Knot

2016
Lisbon, PT

- Played guitar and helped compose music.
- Participated on the recording of songs like: [Nothing Concrete](#).