

# AFONSO PINTO CARDOSO RAFAEL

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## EDUCATION

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**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

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**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

## EXPERIENCE

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**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)**

August 2021

LASIGE

*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

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### 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

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### 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](#).