

James Furtado

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Summary

Hi, I am James, an MSc finalist in Computer Science at [NOVA FCT](#), with over two years of experience in AI and Distributed Systems research, and 1.5 years as a Teaching Assistant for introductory Python and Java courses. My research has included the evaluation of a new Distributed Hash Table design for [IPFS](#), which led to a publication and open-source contributions. More recently, my focus has shifted to LLM safety, which is now the subject of my thesis. Right now, I am helping set up and run Safety Benchmarks for [AMALIA](#) and building a safe AI coding agent for the [Amazon Nova AI Challenge](#). Now, I mostly work with Python and Bash, but I also have solid experience in Golang, Java, high-performance and accelerated computing clusters, and various AWS services. Outside of research I enjoy reading about Computer Architecture, typing, and playing Chess.

Education

NOVA School of Science and Technology (NOVA FCT)

MSc in Computer Science and Engineering

Sept 2023 – now
GPA: 17.5/20 (currently)

- ◊ Major: Distributed and Parallel Systems
- ◊ Minor: Design of Algorithms and Programming Languages

NOVA FCT

BSc in Computer Science and Engineering

Sept 2020 – July 2023
GPA: 17/20

Experience

AI Researcher

NOVA FCT

Largo da Torre, Caparica
August 2025 – now

- Took part of 2 research projects [AMALIA](#) and [Amazon Nova AI Challenge: Trusted Software Agents](#)
- **AMALIA** is the first [Portuguese state-funded sovereign Large Language Model](#)
 - ◊ Part of the team building the model.
 - ◊ Work on the **Safety Team** whose focus is to prevent compliance with dangerous prompts.
 - ◊ Responsibilities include running all safety benchmarks and help to build the training safety data-mix.
- **Amazon Nova AI Challenge** is a prestigious competition organized by [Amazon Science](#) where 10 teams around the globe were selected and tasked with building *Secure Coding Agents*.
 - ◊ Part of one of the selected teams **BlueTWIZ**.
 - ◊ Responsible for part of our AWS architecture.
 - ◊ Designed and implemented version 1 of our evaluation framework (Python, Gitea, S3, Lambda, etc.).
 - ◊ Maintains a deployment of a self-hosted Git platform for the team's experiments.
 - ◊ Helps manage the team's budget of \$150k/month in AWS credits (over **\$1M** in total).
 - ◊ Currently studying CWE detection using embedding models, reasoning models, and agentic setups.

Teaching Assistant

NOVA FCT

Largo da Torre, Caparica
Sept 2023 – Feb 2025

- Was responsible for delivering practical lectures to two classes, each with 30 students.
- During *Sept 2023 - Feb 2024* and during *Sept 2024 - Feb 2025* collaborated with the professors of *Introduction to Programming's* course, where students from the first year of Computer Science bachelor learn to program in Java.
- During *March 2024 - July 2024* collaborated with the professors of *Informatics for Science and Engineering's* course, where students from areas other than Computer Science and Electrical Engineering learn to program in Python.

- Implemented and evaluated a new Distributed Hash Table design proposed by [Protocol Labs](#) on [IPFS](#) (which at the time had 100,000+ lines of Go code).
- Ran experiments using 600 IPFS instances distributed across 8 machines via Docker Swarm.
- Published a [paper](#) at [INForum](#) and made all scripts and code available on [GitHub](#).

Publications

P3B3: A Multi-Turn Conversational Benchmark for Measuring European and Brazilian Portuguese Variety Bias in LLMs ↗	July 2026
AMALIA: A Fully Open LLM for European Portuguese ↗	April 2026
ALBA: A European Portuguese Benchmark for Evaluating Language and Linguistic Dimensions in Generative LLMs ↗	April 2026
Avaliação de uma proposta para uma DHT evolutiva prática ↗ <i>Title in English: Practical evaluation of an Upgradable DHT proposal</i>	July 2024

Personal Projects

A few personal projects I've built over the years, usually as an excuse to learn something new.

Mini-ML [↗](#)

- ▷ An interpreter and [JVM](#) compiler for a small [functional programming language](#) in Haskell using only the standard library
- ▷ Built as a way to learn Haskell and compiler design from scratch

FS Navigation [↗](#)

- ▷ Lightweight directory-aliasing tool for the terminal
- ▷ C executable paired with a shell function for fast `cd`-style navigation
- ▷ Used daily as part of my terminal workflow

Wayland Client [↗](#)

- ▷ [Wayland client](#) implemented from scratch in Rust
- ▷ It was born out curiosity on how windowing systems render to the screen.
- ▷ Was supposed to be a full UI rendering engine, but time was of the essence

Technologies

Languages: Bash, Python, Java, Golang, Rust, Haskell, C/C++, SQL, HTML/CSS/JavaScript, Node.js

Technologies: Docker, Git, Linux Terminal, SSH, AWS (EC2, S3, Lambda, etc.), Makefile, Maven, VIM