

Hélder Gomes

+351 934 737 942 | hello@heldergomes.xyz | github.com/helderrrg | linkedin.com/in/helderrrg/

Education

Bachelor's Degree in Computer Science and Engineering

University of Minho

Sep. 2022 — Jun. 2025

Braga, Portugal

- Cumulative GPA: 16/20 (Top 8%)

University Projects

Route Optimizer | Python, Git

Grade: 19/20

Artificial Intelligence Class

2024

- Conceived a Python program to optimize resource distribution on a graph using AI pathfinding techniques. Within a 4-person team, designed and implemented a custom A*-inspired algorithm, then conducted benchmark tests on graphs (max. 500 nodes), demonstrating reduced search time by 16% and improved resource efficiency by 4%.
- Pioneered a complementary graph representation of the [map of Portugal](#), that accurately plots 307 municipalities, to enhance the project's applicability to real-world scenarios, improving its practical relevance and usability.

Fitness Application | Java, Git

Grade: 20/20

Object Oriented Program

2023

- Developed a Java-based fitness application, applying Object-Oriented Programming principles to ensure a modular and scalable system.
- Designed an automatic workout plan generator, implemented time jumps, training statistics, and query-based leaderboards to identify top users, enhancing engagement and performance tracking.
- Applied design patterns such as MVC, Abstract Factory, Facade, and Observer to structure the application, improve maintainability, and enable dynamic updates based on user interactions.

Network Monitor | Go, Git

Grade: 19/20

Computer Networking

2024

- Designed a network monitor in Go to analyze network links and devices across a distributed environment. Implemented custom UDP-based and TCP-based application-layer protocols, enabling fast communication between multiple agents and a centralized server, with minimal latency.
- Configured a scalable architecture supporting up to 36 multiple agents, using JSON-based task management to define operations and thresholds. Validated the system through thorough testing with [CORE](#), monitoring metrics like latency and bandwidth across various simulated devices.

Extracurriculars

Pedagogical Department Coordinator

2022 - Present

CeSIUM (Software Engineering Students' Association of the University of Minho)

Braga, Portugal

- I commenced my involvement with this Association by assuming the role of a collaborator within the Pedagogical Department. Our objective is to enhance the course curriculum and provide support to the students;
- In my second year at university, I continued my engagement by taking on the role of Co-Director of the Pedagogical Department, overseeing the department's operations and strategic planning. I worked closely with a team of dedicated collaborators and faculty from various disciplines within our course;
- Currently, in my final year of my bachelor's degree, I serve as a vowel of the Pedagogical Department, acting as a liaison between the department members and the presidency to ensure effective communication and collaboration.

General Coordinator & Mentor

2022 — Present

CoderDojo Braga

Braga, Portugal

- I embarked on my journey as a mentor, where I had the opportunity to instruct children in computing and programming using the CoderDojo Global (Code Club) methodology;
- In my inaugural year of contribution, I assumed the role of DojoCare Responsible, a branch within CoderDojo tasked with extending our ethos and knowledge to underprivileged children. The next year, I continued to serve as the DojoCare lead while also spearheading our flagship event, Coder Camp, a week-long summer program that offers children the opportunity to immerse themselves in a range of engaging activities while gaining foundational knowledge in computer science.
- Currently, I am the Champion (general organizer) of CoderDojo Braga, leading a team of over 10 core members who, through our regular monthly sessions and additional events such as Dojo Care and Coder Camp, engage with more than 300 people each month.

Other qualifications

- Technical Skills:** Light involvement in projects with Javascript/Typescript, Node/Next.js, .NET, Blazor, Golang, MySQL, Tailwind, CSS, HTML, Haskell, C, Java, VisualBasic and Python.
- Languages:** English (fluent), Portuguese (native)