Pedro Castro

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PROFILE

Informatics and Computing B.E. student with a strong interest in problem-solving and algorithm design. Passionate about learning new technologies and contributing to projects. Open-source supporter.

EDUCATION

Faculty of Engineering of the University of Porto   Porto, Portugal
Bachelor in Informatics and Computing Engineering   *Sep 2022–Jul 2026*
Relevant Coursework: Algorithms and Data Structures, Databases, Web Development, Operating Systems, Software Engineering, Distributed Systems, Computer Security, Compilers, Discrete Mathematics, Artificial Intelligence.

EXPERIENCE

NIAEFEUP   Porto, Portugal
Project Manager   *Aug 2025–Present*
- Led the development of the Association's website, managing a team of 15+ people.

Member   *Oct 2024–Present*
- Developer of a mobile app in Flutter made for students to help them organize their academic life and schedule.
- Developer of the College Student's Association website using Svelte, Tailwind CSS, Kotlin and Spring Boot.

Kevel   Porto, Portugal
Engineering Intern   *Jul 2025–Jul 2025*
- Enhanced test reliability in CI pipelines by building tools to detect and report non-deterministic tests in large Scala codebases, preventing flaky tests from reaching production.

PROJECTS

NixOS Configuration | *Nix, Linux, Infrastructure*   *Present*
- Built a declarative infrastructure-as-code system for managing multiple NixOS machines with a modular configuration.
- Deployed a home server running 15+ self-hosted services including media streaming, photo management, and file storage.
- Configured reverse proxy with automated SSL certificate management via Cloudflare DNS for remote access.

Personal Website/Portfolio | *Astro, Svelte, Tailwind CSS*   *Present*
- Created a personal portfolio website to showcase projects, share blog posts, and host my resume.
- Built with Astro and Svelte, styled with Tailwind CSS.

OpenQuest | *Laravel, PostgreSQL, REST APIs*   *Dec 2025*
- Built a collaborative Q&A platform using Laravel, supporting questions, answers, voting, and gamification features.
- Designed and implemented a relational database schema in PostgreSQL for managing user interaction, content moderation, notifications, tagging and categorization systems, badges, among others.
- Developed a REST API with OpenAPI documentation and role-based access control for multiple user roles.

Pacman | *Java, SOLID Principles*   *Dec 2024*
- Developed a text-based adaptation of the classic Pac-Man game using Java.
- Designed the project following SOLID principles for maintainability and scalability.
- Implemented object-oriented programming (OOP) techniques to modularize game logic and improve code reusability.

Water Supply Management Analysis Tool | *Max-Flow Graph Algorithms*   *Apr 2024*
- Developed a graph-based tool to assist the Management Team of a water supply network in Portugal.
- Implemented Max-Flow algorithms to analyze network metrics, evaluate resilience and optimize resource allocation.

TECHNICAL SKILLS

Languages: C, C++, Java, Kotlin, Scala, Python, JavaScript, SQL, Dart, PHP, Haskell, Prolog, Nix
Web Development: Svelte, Astro, Tailwind CSS, Spring Boot, NestJS, Laravel, REST APIs
Databases: PostgreSQL, MongoDB, SQLite, MySQL, Database Design, Relational Algebra
DevOps & Tools: Git, Docker, CI/CD, Linux, Nix
Software Engineering: OOP, Design Patterns, Software Architecture, Unit Testing, Refactoring, Debugging

LANGUAGES

Portuguese: Native | **English**: Highly Proficient