
Afonso Paiva

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Education

POLYTECHNIC INSTITUTE OF CÁVADO AND AVE

B.SC. Game Development Engineering, Current GPA: 14/20

Graduation Date: June 2026

Relevant Coursework: Imperative Programming, OOP, Linear Algebra, Web Development, Android Development, Advanced Data Structures, Databases, Computer Vision, Graphics Programming

Braga, Portugal
(Ongoing)

Technical Skills & Languages

BACKEND & SYSTEMS: Java, Go, C++, C, SQL, Spring Boot, Gin, REST API Architecture, JWT Authentication.

DATABASES&TOOLS: PostgreSQL, Firebase, Stripe API, Linux, Unix, Git.

FRONTEND: JavaScript, TypeScript, Angular, ReactJS, Flutter

Projects

ESCRITORES NOGUEIRA: Java, Spring Boot, Stripe, JavaScript, Rest API

Website

- Architected and deployed the backend infrastructure for a full-stack e-commerce platform.
- Engineered a secure private REST API to manage relational data for writers, books, and clients, integrating the Stripe API for robust payment processing.

SKILLBRIDGE: Go, Gin, PostgreSQL, Angular, TypeScript, RxJS, JWT Authentication

Website

- Engineered a high-performance backend architecture for a multidisciplinary academic hub targeting students at IPCA, P.Porto (ISEP), U.Porto, U.Minho, U.Coimbra etc.
- Implemented complex matchmaking logic, peer-review data systems, and secure JWT authentication to handle user data across the academic ecosystem

LOADX: C++, OpenGL, GLSL, Assimp

Github

- Developed a custom graphics engine focusing on low-level system performance and memory management.
- Implemented resource management systems for multi-format 3D model loading and real-time Physically Based Rendering (PBR)

SOLAR TERRAIN ANALYTICS: Java, Spring Boot, Google Maps API, PostgreSQL

Github

- Engineered a high-performance REST API to calculate solar potential by orchestrating Google's Solar API data with real-time electricity market pricing.
- Developed complex backend algorithms for polygon-based geospatial analysis, processing elevation and shading data to generate real-time intensity heatmaps.
- Optimized data-heavy calculations to provide users with precise ROI (Return on Investment) projections based on current energy costs and terrain obstacles.

Experience

Software Engineering Intern | YouOn

Braga, Portugal
February 2026-(Ongoing)

- Architected internal dashboard utilities, including a custom link shortener, utilizing PHP, Laravel, and MySQL to handle relational database queries and backend routing.
- Engineered and integrated dynamic, data-driven components for client-facing dashboards using Angular, ensuring seamless communication with the backend APIs

Erasmus Programme (ERASMUS)

Howest University, Kortrijk, Belgium

September – January 2026

- Mastered advanced software design patterns (MVP) and developed complex, low-level C++ applications in a highly technical international environment.

42 Programming School

Porto, Portugal
2023

- Completed an intensive, month-long Unix and C programming bootcamp.
- Developed strong foundational skills in algorithmic problem-solving, manual memory management, and peer-to-peer code review.

Blended Intensive Programme (BIP) Nord University, Levanger, Norway

March – April 2025

- Developed a VR game in an international team during a 3 ECTS Erasmus+ programme focused on engineering and design.
- Explored emerging technologies related to virtual reality, including hardware integration and interaction design.
- Collaborated in a multicultural environment and communicated exclusively in English throughout the project.