



Edgar Carvalho Ferreira

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Ruilhe, Braga - Portugal




PROFESSIONAL EXPERIENCE

- **Sporting Academy**  Dec. 2021 - Jul. 2023
Football Coach Braga, Portugal
 - Coached youth teams, fostering teamwork, discipline, and individual growth among players.
 - Developed communication, leadership, and conflict-resolution skills by managing training sessions and coordinating with parents and staff.
- **Private Tutoring Center**  Sep. 2022 - May 2024
Mathematics Tutor Braga, Portugal
 - Provided mathematics tutoring to middle school students (grades 5–9), supporting their academic development and school performance while promoting their critical thinking and problem-solving.
 - Strengthened interpersonal and communication skills through regular interaction with students and guardians.

EDUCATION

- **University of Minho** Sep. 2022 - Jun. 2025
Bachelor's Degree in Computer Science and Engineering Braga, Portugal
 - GPA: 15.4/20
- **Externato Infante D. Henrique (ALFACOOOP)** Sep. 2019 - Jun. 2022
High School in Science and Technology Course (10°, 11° and 12°) Braga, Portugal
 - GPA: 19.1/20

PROJECTS

- **Pascal Compiler: Language Processing** Grade: 20/20
Tools: Python, PLY, Flask, EWVM, Git 
 - Developed a Pascal compiler with lexical, syntactic, and semantic analysis, generating code for the [EWVM](#) virtual machine, supporting functions, arrays, and control structures.
 - Implemented a bottom-up LALR(1) parser in Python using PLY, and an AST as an intermediate representation for semantic checks and code generation. The AST is interactively visualized via a Flask and D3.js web app.
- **3D Graphic Engine: Graphic Computing** Grade: 19/20
Tools: C++, OpenGL, GLUT, DevIL, GLEW 
 - Developed a scene graph-based 3D engine, including an XML geometry/objects generator and parser, with support for hierarchical transformations, animations, VBOs, textures, and lighting.
 - Created multiple XML examples and a random solar system generator for demos featuring animated orbits, rotating planets, dynamic lighting, and textured surfaces.
- **Secure Vault: Cybersecurity** Grade: 18/20
Tools: Python, Git 
 - Built a secure client-server system with encrypted file storage, access control, and user/group sharing using X.509 certificates, RSA, and Station-To-Station with Diffie-Hellman.
 - Designed a Certificate Authority (CA) for issuing certificates and implemented asymmetric key encapsulation to protect files on a per-user basis.

SKILLS

- **Programming Languages:** Haskell, Python, Java, Go, JavaScript, TypeScript, C, C++, C#, SQL
- **Web Technologies:** React, Vue, HTML, CSS, Tailwind CSS, Vite
- **Other Tools & Technologies:** VSCode, Visual Studio, Vim, Wireshark, OpenGL, MATLAB, Excel, MySQL, KNIME, LaTeX, Markdown, Visual Paradigm, Figma, Canva, Git, Bash, Make, OpenGL
- **Languages:** Portuguese (Native), English (Advanced), Spanish (Advanced)

CERTIFICATIONS

- **High School(10°, 11°, 12°)** Nov. 2021
- **Level 1 Coaching Course** Oct. 2023
- **Bachelor's Degree in Computer Science and Engineering** Jun. 2025