

# Edgar Carvalho Ferreira

+351 916300052 | [edgarcferreira03@gmail.com](mailto:edgarcferreira03@gmail.com)



 [Edgar Ferreira](#) |  [Edegare](#)

Ruilhe, Braga - Portugal

## OBJECTIVES

I am seeking an opportunity to develop my technical skills, grow professionally, and gain practical experience in the field. I have a strong interest in several areas of Computer Engineering, including Software Development, Artificial Intelligence, and Cybersecurity. I am highly motivated to keep learning and to contribute to innovative projects within a dynamic team environment.





## 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: 16/20
- **Externato Infante D. Henrique (ALFACOOP)** Sep. 2019 - Jun. 2022  
*High School in Science and Technology Course(10º, 11º and 12º)* Braga, Portugal
  - GPA: 19/20

## PROJECTS

- **Pascal Compiler: Programming Language Processing** Grade: 20/20  
*Tools: Python, PLY, Flask, EWVM, Git* 
  - Built a Pascal compiler supporting functions, arrays, control flow, and performing lexical, syntactic, and semantic analysis, with code generation for the [EWVM](#) virtual machine.
  - Developed a bottom-up LALR(1) parser from a custom context-free grammar, auto-translated to PLY-compatible Python code. Also, created an abstract syntax tree (AST) for semantic checks and code generation.
  - Created a Flask web app with D3.js to visualise submitted Pascal code as an interactive AST.
- **Secure Vault: Cybersecurity** Grade: 18/20  
*Tools: Python, Git* 
  - Developed a secure client-server system enabling encrypted persistent file storage, access control, and user/group sharing using X.509 certificates and RSA cryptography.
  - Implemented a full Station-To-Station (STS) key exchange protocol with mutual authentication and encrypted communication, using Diffie-Hellman key agreement. Engineered per-user file encryption with asymmetric key wrapping for confidentiality, reducing the attack surface on stored data.
  - Additionally, built a Certificate Authority (CA) to issue and sign user certificates securely, simplifying credential management and improving system trust.
- **Network Monitoring System: Computer Networking** Grade: 17/20  
*Tools: Go, CORE Emulator, Git* 
  - Developed a distributed network monitoring system in Go using custom-built UDP and TCP protocols for agent-server communication.
  - Designed JSON-based task configuration to define monitoring thresholds and automate metrics collection (latency, bandwidth, CPU, RAM).
  - Built a scalable architecture, validating its performance via the [CORE](#) network emulator.
- **Other**  
*On my GitHub Profile* 

## 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, Vim, Wireshark, OpenGL, MATLAB, Excel, MySQL, KNIME, LaTeX, Markdown, Typst, Visual Paradigm, Figma, Canva, Git, GitHub, GitLab, Bash, SSH, Make, OpenGL
- **Languages:** Portuguese (Native), English (Advanced), Spanish (Advanced)

## CERTIFICATIONS

---

- **High School(10°, 11°, 12°)** *Nov. 2021*
- **Level 1 Coaching Course** *Oct. 2023*