Rafael Pinho Teixeira e Silva

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Education

2024 – present BSc in Informatics and Computer Engineering at **FEUP** (17/20)
Winter 2026 **XR CLASS** – Erasmus+ VR development programme (Unity, C#) in Norway (5 ECTS)

Experience

Research Assistant (Research Initiation Grant) – INESC TEC Apr 2025 – Apr 2026
- Improved the security of web health platforms and built methodology and tools to automate vulnerability hunting
- Grant followed my vulnerability report on the Programming Fundamentals code evaluation platform (remote code execution, sandbox bypass, database access), written with a colleague and including proposed fixes

Teaching Assistant, Programming Fundamentals – FEUP Sep 2026 – Present
- Run extra study sessions for first-year students in an introductory Python course, reviewing course contents and helping with exercises and debugging

Web Developer (Freelance) – Enercuravac Jul 2026 – Sep 2026
- Designed, built and deployed a responsive, multilingual business website with catalog, portfolio, contact forms and SEO

Leadership & Teaching Initiatives

President, ACM FEUP Student Chapter Jun 2026 – Present
- Lead the chapter's executive board and departments; oversee new initiatives, events and external partnerships
- Created and lead the **FEUP Programming Academy**, a weekly training and mentoring program for 9th–12th grade students, run with FEUP's Talent Development Unit [Article]

Vice-President, ACM FEUP Student Chapter May 2025 – Jun 2026
- Conceived and led **CodeQuest**, a semester-long course teaching high school students programming through game development; designed the curriculum, taught the classes and built a Pygame wrapper for beginners [Article]
- Coordinated ACM FEUP's part in **CodeCamp@FEUP** and the **ACM xSTF 2026** CTF competition; led the Robotics Department

Awards & Competitions

1st Place, RetroJam – *Rebirth*, a PICO-8 platformer built in 48 hours in a team of four Oct 2025
4th of 15, JunctionX Lisbon – Sensei Challenge, solved without external dependencies or VLMs [Project] Oct 2026
Teamliest Team Award, ACM xSTF 2025 – cybersecurity Capture The Flag competition May 2025

Selected Projects

Register Allocation – CLI for compiler register allocation via graph coloring: builds webs and an interference graph, four strategies

LCode – Minix systems project: hardware driver framework and a graphical code editor with keyboard, mouse and file system support

FeUpload – Mobile app for sharing study materials, with offline study and an AI assistant with flashcards and PDF Q&A

Game Development – 15+ published games since age 13, mostly for game jams, winning two

Skills

Languages Python, C, C++, C#, Java, JavaScript, TypeScript, PHP, Dart, SQL, Lua, GDScript
Tools Git, Linux, Unity, Godot, Flutter, React, Pygame, Raylib