Eduardo Silva

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Portuguese Citizen (EU) | Available to work remotely from Portugal | Available upon offer acceptance

Software Engineer

Software engineer with 2+ years building production AI systems and full-stack applications. Specialised in C++ and Python with hands-on experience across the Azure and AWS ecosystems. Strong low-level systems background — real-time rendering, GPU compute pipelines, latency-sensitive inference. Currently developing applied neurotechnology skills in EEG signal processing and spiking neural networks alongside primary engineering work.

Experience

MieterEngel Berlin, Germany (Remote)
Software Developer *May 2025 – Present*

- Delivered the court case management system end-to-end (backend, frontend, planning), enabling customers to pursue legal proceedings through the platform with stage tracking, payments, invoicing, and lawyer opt-in — serving customers across 5+ insurance partners.
- Built an async PDF merging pipeline triggered on document upload, using an AWS Lambda with concurrency controls streaming directly to S3, saving admins 50+ hours/month of manual work.
- Implemented a bulk document download feature generating a streaming zip to S3, with a content-addressable cache (zip filename hashed from document IDs) to avoid redundant recomputation — saving an additional 30+ hours/month.
- Contributed across three portals (customer, lawyer, admin) and multiple backend services using GraphQL and TypeScript, handling features from database migrations through to frontend delivery.

Armis Group Porto, Portugal
AI Software Engineer *Jul 2023 – May 2025*

- Designed and deployed RAG chatbots integrating Azure OpenAI with SharePoint, PDF repositories, and live web sources; delivered across Microsoft Teams and WhatsApp via Twilio.
- Delivered a €250K PRR-funded AI chatbot for the Faculty of Economics, University of Porto (FEP) in 2 months — course-specific knowledge bases curated by professors, serving approximately 500 students; deployed on-premises with custom CI/CD.
- Implemented OAuth 2.0 with Microsoft as Identity Provider and a role-based access control caching layer to isolate users by permission level across Azure-hosted services.
- Managed cloud infrastructure using Bicep (IaC) and built custom Bash CI/CD pipelines with VPN/SSH connectivity for deployments.
- Led end-to-end development of a merchant transaction categorisation model for an international bank: preprocessed over 100K transactions, applied clustering-guided manual labelling to address class imbalance, and trained and compared an XGBoost classifier and an Ensemble Neural Network, achieving the best accuracy and F1 with hyperparameter tuning via GridSearch.
- Led team technical planning and sprint decisions during tech lead absence; authored onboarding documentation adopted permanently by the team.

Armis Group Porto, Portugal
AI Software Engineer Intern *Feb 2023 – Jun 2023*

- Built SmartForms, an intelligent document processing system for international sports clients (Portuguese Football Federation, Benfica, CONCACAF) using Azure Form Recognizer, OCR, and CosmosDB on a microservices architecture with async queue processing.
- Graded 18/20 by FEUP as an assessed university project.

Education

Faculty of Engineering of the University of Porto (FEUP) Porto, Portugal
Bachelor's Degree in Informatics and Computing Engineering *Sept. 2020 – July 2023*

Certifications

Microsoft Certified: Azure AI Fundamentals June 2024

Projects

Majin — Real-time Rendering Engine | ***C++23, Vulkan, GLFW*** [2025]

- Designed and built a 3D rendering engine from scratch: Vulkan pipeline, compute shader support, entity-component-system architecture, physics and networking integration.
- Implemented GPU memory management, descriptor set layout optimisation, and cross-platform build system targeting Windows and Linux.

Hikari — Raytracing Engine | ***C++, Vulkan*** [2024]

- Engineered a Vulkan-based raytracing engine with emissive materials, an integrated denoiser, and architecture designed for integration with a custom rendering pipeline.

Biomedical Signal Processing Pipeline | ***Python, NumPy, SciPy, MNE*** [2025–Present]

- End-to-end EEG preprocessing pipeline: bandpass filtering, artifact detection, epoch extraction, and spectral analysis targeting downstream ML classification.

Chess Engine | ***C#*** [2024]

- Compact chess engine under strict resource constraints — negamax search with alpha-beta pruning and transposition tables. Optimised for decision quality under time and memory limits.

Technical Skills

Programming Languages: C++, Python, TypeScript, C#, C, JavaScript, Bash
Systems & Graphics: Vulkan, GLFW, Raytracing, real-time rendering, GPU compute pipelines
ML & Data: NumPy, SciPy, Pandas, Scikit-learn, Neural Networks, LLMs, Azure OpenAI, RAG, time-series analysis
Infrastructure: AWS, Azure, PostgreSQL, GraphQL, Node.js, React, Git, CI/CD, Docker
Languages: Portuguese (Native), English (Fluent), German (B1, active study), Spanish (Intermediate)