FRANCISCO SOUSA E SILVA

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I am deeply motivated by a desire to excel in every endeavor, driven by a natural aptitude for quickly grasping new concepts and ideas. This ability not only makes me enthusiastic about learning but also enhances my contributions to complex projects. My commitment goes beyond achieving good results; I strive for excellence, constantly seeking to elevate my skills and understanding. This dedication is matched by a disciplined approach, allowing me to manage various responsibilities effectively and deliver work that meets high standards. In team collaborations, I value the power of diverse insights and am eager to contribute to our collective success, as I have experienced in several university projects.

MAIN EDUCATION

Instituto Superior Técnico | Master's Degree | Lisbon | 2023 – Present

Currently a MSc. Electrical Engineering and Computer Science student.

Selected subjects (0-20)

Deep Learning*	19	AI and Decision Systems	18	Systems Programming	18
Forensic Cyber-Security	16	Optimization and Algorithms	18		

Destinguished as the top Deep Learning student with a prize by the Portuguese insurance company **Fidelidade**.

Main Projects
- Developed a Convolutional Neural Networks to identify hand-written digits and Transformer models to process natural language.
- Implemented an asynchronous game through a distributed system using C language, web sockets and protocol buffers.
- Developed a transportation scheduling application, that minimised delays through heuristics.

TU Dortmund | Erasmus | Dortmund, Germany | March 2024 – Present

Currently an Automation and Robotics mobility student.

Selected subjects:

Machine Learning	Quantum Computers	Computer Vision
Reinforcement Learning	Advanced Statistical Learning	Organisation of Innovation

Using this opportunity to get to know people from around the world and travel to major cities in Central Europe.

Instituto Superior Técnico | Bachelor's Degree | Lisbon | 2020 – 2023

Completed BSc. Electrical and Computer Engineering (**grade 16.1**)

Selected subjects (0-20)

Differential and Integral Calculus I	14	Control	17	Algorithms and Data Structures	16
Modelling and Simulation	17	Computer Architecture	17	Circuit Analysis	17
Linear Algebra	15	Programming	18	Differential and Integral Calculus III	15
Digital Systems	18	Computer Networks	15	Signals and Systems	17
Object Oriented Programming	17	Network Mngt and Architecture	17	Differential and Integral Calculus II	16

Main Projects
- Implementation of Scrabble game using C language.
- Maze solving using C language, Graph Theory and Dijkstra's and Search Algorithms.
- Management of a waiting queue using logic gates.
- Developed a program to be a node of a computer network and communicate with other nodes using C language.
- Discrete Stochastic Simulation of an ACO algorithm to solve TSPs using Java
- Modelling and Simulation of the development of cancer cells using Matlab

Colégio de S. João de Brito | High School | Lisbon | 2017 – 2020

I took on a science based course, studying calculus, physics, chemistry and geometry (**university admission grade of 19**).
Obtained multiple Merit Board prizes on "School Grades", "Effort and Dedication" and "Sports".

FURTHER EDUCATION

Oxford College | Summer School | Oxford | 2018

"Business and Leadership"

Completed a two-week "Business and Leadership" University preparationCourse, focused on working as a team with people from around the world. Key subjects were Marketing, Business Plans and Strategy.
Final project was the development of a Business Plan and a go-to-market strategy for a pet-walking app.

Udemy | Online Courses | 2020 - 2023

"Complete C# Unity Game Developer"
Took on the "Udemy Complete C# Unity Game Developer" course during the 2020 quarantine and learned to write code for computer games.

"The Web Developer Bootcamp 2023"

Currently completing the "The Web Developer Bootcamp 2023" course. A 73.5 hour course that grants the knowledge of a full stack developer. Learned to include and interact with web applications in my projects with APIs.

WORKING EXPERIENCE AND PROJECTS

Summer internship | DocDigitizer | Lisbon | June 2021

Worked for DocDigitizer, a technology and programming startup, on a four week summer internship in a team with 3 university colleagues.

Goal: Find suitable OCR (Optical Character Recognition) software for the company, comparing the performance of the options in the market.
Tasks: Develop code in C# and Python to test and compare OCR software; Create indicators to quantitatively measure performance; Prepare and deliver a final presentation with the results of the study.
Experience gained: Team-work Writing code in a professional environment; Presentational skills.

Hackathon | Ytech | Lisbon | June 2022

First place in a 12 hour programming competition in teams of 4 members

Goal: Develop a game using the Unity engine and make a presentation for a juri.
Experience gained: Programming in a team with concrete deadlines. | Experience using C# and Unity in a competitive environment | Presentational skills.

Research Scholarship | University of Lisbon | Lisbon | June 2023

Worked as a solo developer for 3 months, creating an interactive web application from scratch.

Goal: Develop an interactive website where users can learn concepts about finance, by interacting with content generated by a GPT API.
Experience gained: Web development using NodeJS, ReactJS and Javascript | Experience integrating the OpenAI API | Researched State of the Art

Distributed Mobile App | September 2023 - Present

Currently working with 2 other collegues to develop and launch a social-media-like mobile app.

Goal: Publish a high-quality, reliable and available app with a go-to-market strategy.
Experience gained: Frontend development using React-native | Backend development using Golang | Supabase databases | Distributed system design, including APIs, Load balancers, Databases, replicated servers, horizontal scaling | Team work | Scrum work environment | Deployment of web servers using AWS and Google cloud services

Outsource Consultant | Junitec - BPI Bank | Remote | February 2024 - Present

Currently working with 3 other developers and 1 project manager to develop APIs in C# .NET for testing marketing strategies in real-time

Volunteering

Did voluntary work on free afternoons during high school:
- Promoter for food banks at the doors of grocery stores.
- Tutor for unprivileged children aged 8 to 14.

Programming:

- C/C++ Language of focus in the University subjects
- C# Learned in High School and used in Internships and developing games
  Python Learned on my own and used for several personal projects
- Matlab Used in several University subjects
- Javascript/React/React-Native - Learned on my own and used for several personal projects
- Java - Used in the OOP University course

Languages:

- Portuguese Native Language
- English C2 Level - Cambridge School Proficiency Certificate
- German B2 Level - Göthe Institut Lisbon
- French 3 years - Middle School
- Russian Self-learning since 2021

Interests:

- Football: Played in High school's team, being federated for 5 years.
- Chess: Began at an early age, but started playing federated since 2019. Play in official FIDE tournaments regularly and practice daily. Rated approximately 1500 international rating.
- Guitar: Taught myself to play the guitar and have been playing for 8 years.
- Fitness: Learned the basics of nutrition and fitness during the 2020 quarantine, looking to improve my physique.

Travelling:

I am passionate about getting to know new cultures and try to travel as much as possible, having visited multiple countries in Europe, Asia and America.
Main trips:
- Southeast Asia | 2014 First time outside of Europe, visited Malaysia, Cambodia, Singapore and Thailand.
- Miami | 2016 First time in the US.
- Finland | 2017 One-week international football tournament in Helsinki.
- Oxford | 2018 First time travelling alone.
- Central Europe | 2022 Train-trip with one friend. First travel planned and funded completely independently. Visited Germany and The Netherlands.