Diogo Marques

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Personal Data and Contacts

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Education and formation

[2022] Master's in computer engineering at the **Faculty of Sciences of the University of Lisbon** with specialization in *Interaction and Knowledge*.
Average score: 15.20 out of 20

[2019] Graduated in **Computer Engineering** at the **Faculty of Sciences of the University of Lisbon**.
Average score: 16.14 out of 20

[2015] Finished secondary education
Curso Cientifico-Humanístico de Ciências e Tecnologia (with Projective Geometry subject)
Average score: 17 out of 20

[2012-2015] Studied at Escola Secundária Rainha Dona Leonor

[2014] Certificate in Advanced English **(CAE) - CEFR Level C1**
I attended C2 Proficiency classes in the following year

[2013] HTML5 course at NOVA School of Social Sciences and Humanities
Final score: 20 out of 20

[2008-2012] Studied at Colégio Valsassina

Awards and participations

[2018] Monitor for Verão na ULisboa – I led two sessions on Scratch programming for high school students

[2016/2017] Second year Academic Merit Certificate
[2015/2016] First year Academic Merit Certificate

[2015] 1st place in FCUL Rally Pro – Our team was awarded a scholarship for Computer Science related courses at the Faculty of Sciences

[2015] 1st place in XV RoboCup Portugal Open – Junior Rescue (Line)

Projects

Game jam participations

- **Harvest Defense** [2023] – https://gitlab.com/pixelized-anarchy-ld52/ld52 (LD 52 Jam)
- **The Lava Is Floor** [2021] – https://gitlab.com/diogotito/the-lava-is-floor (WOWIE 3.0)
- **Hush My Child** [2021] – https://gitlab.com/diogoalmiro/gamejam2021 (GGJ)
- **unBroken Dreams** [2020] – https://globalgamejam.org/2020/games/unbroken-dreams-6
- **Homeseek** [2019] – https://github.com/diogotito/Homeseek_GGJ2019 (GGJ)

ModEst (master thesis project)

A visualization dashboard on the student flow in the Portuguese education system.
Available at http://modest.lasige.di.fc.ul.pt/desenvolvimento/.
The technologies involved were **Python** (with Plotly Dash, Pandas and NumPy), **React**, **Docker**, Nginx, uWSGI and Ubuntu.

VASelfCare

I wrote a small framework to aid the implementation of an expert system in CLIPS, a rule-based language, and integrated it with an **Android** app developed with the **Unity** game engine. Figuring out how to integrate CLIPS, a C code base, with Scripts written in **C#** for a game engine running on Android, having everything properly compiled and communicating through JNI and *having* the CLIPS code (including my framework) working correctly ended up being a considerably long part of my work.
The app features a virtual assistant that tracks the health of elder patients with type-2 diabetes and employs behaviour-change techniques in the dialogs to guide them to improve their lifestyles.

Smaller projects and experiments

See https://diogotito.github.io/ and https://github.com/diogotito/GBA-saves-galery (a web app)

A few small open-source contributions

- bitwarden-to-keepass
- bitwarden-rofi
- janus
- PyUserInput

ABRA

A small typing game made with web technologies that I developed with friends.
It's hosted at https://abra.pineman.win and the source code is available at GitHub.

Technologies

Programming languages

I currently feel more competent writing in

1. JavaScript
2. Python
3. C#
4. Java

I have also written code in C, HTML, CSS, Pascal, LaTeX, SQL, PL-SQL and x86 assembly (for a course assignment). I have automated tasks in a variety of shell and scripting languages like Bash, PowerShell, Lua and AutoHotKey. I occasionally dabble in writing Ruby (my favourite) and Haskell or learning a new programming language to expose myself to newer ideas in expressing computer programs (ex.: Elm, Pony, APL). I have special interests in CG, game engines (I've tried Unity, Godot and Defold), desktop GUI toolkits and front-end development in general, but I enjoy some back-end development too. I have an ongoing interest in becoming capable of writing C++ and some other systems programming language like Rust.

PROJETOS ACADÉMICOS

2º ano

Princípios de Programação

PPLANG – Interpretador para uma linguagem *stack-based* simples implementado numa linguagem funcional.

Tecnologias/linguagens: Haskell

Sistemas de Informação e Bases de Dados

Construção de um sistema de gestão de condomínios fazendo um esquema relacional para um SGBD da Oracle, com Triggers e algum código procedimental escrito para implementarmos certas restrições de integridade adicionais.

Tecnologias/linguagens: Oracle, SQL, PL-SQL

3º ano

Sistemas Distribuídos

Implementação de um servidor e de um cliente para uma tabela distribuída com redundância em ANSI C.

Tecnologias/linguagens: C, sockets, *pthreads*

Segurança e Confiabilidade

PhotoShare – Um aplicação cliente-servidor que permite a partilha de fotos entre vários utilizadores de uma forma segura. Os programas do cliente e do servidor correm numa *sandbox* configurada com ficheiros de política para a JVM, e foram escritos usando várias funções da API de segurança do Java.

Tecnologias/linguagens: Java, Snort, iptables

Construção de Sistemas de Software

Construção de um sistema de gestão de torneios usando várias APIs do Java EE, com um container Wildfly a correr a camada de negócio e a servir a camada de serviços e outros cliente containers a correrem um cliente Web e uma GUI em JavaFX.

Tecnologias/linguagens: Java EE (JPA, JTA, EJB e RMI), JavaFX, Maven, Wildfly, Git

Engenharia do Conhecimento

Vitória - Implementação de um agente conversacional numa linguagem *rule-based*, com o objetivo de ser integrado numa app para acompanhar pacientes idosos de diabetes tipo II. Este projeto foi feito no contexto de um projeto de investigação.

Tecnologias/linguagens: CLIPS (C Language Integrated Production System), C#

Projeto de Sistemas de Informação

piFCUL – Desenvolvimento de uma *web app* para gerir pré-inscrições e senhas de alunos colocados na FCUL usando a *MEAN stack*. Foi seguida a metodologia Scrum e foi utilizada a plataforma JIRA para se fazer a organização e o seguimento do trabalho da equipa de desenvolvimento.

Tecnologias/linguagens: HTML, CSS, TypeScript, Angular, JavaScript, Node, Express, MongoDB, JIRA Agile