

David Belchior

SOFTWARE ENGINEER

✉ davidbelchior@tecnico.ulisboa.pt 📧 DavidAkaFunky 🌐 david-belchior-b4586b45

EDUCATION

Instituto Superior Técnico - Universidade de Lisboa

MSc IN COMPUTER SCIENCE AND ENGINEERING

Cumulative GPA: **18 / 20** (Current)

Sep. 2022 - Nov. 2024 (Expected)

Instituto Superior Técnico - Universidade de Lisboa

BSc IN COMPUTER SCIENCE AND ENGINEERING

Cumulative GPA: **18 / 20**

Sep. 2019 - Jul. 2022

EXPERIENCE

Banco de Portugal - Legal Enforcement Department

DATA SCIENCE INTERN

Lisbon, Portugal

Since Jul. 2024

- Developing an application for automatic generation of internal documents for the different areas of the Department, articulating internal and external databases. **Tech: Python, Django, JavaScript, jQuery, SQLite, SQL Server, Pandas.**

LaSIGE

EARLY STAGE RESEARCHER

Lisbon, Portugal

Mar. 2024 - Jun. 2024

- Continuation of the project related to my MSc thesis.

INESC-ID

EARLY STAGE RESEARCHER

Lisbon, Portugal

Feb. 2023 - Jul. 2023; Oct. 2023 - Dec. 2023

- Feb. 2023 - Jul. 2023: Project related to traffic correlation on the TOR network. **Tech: Python, Terraform, Ansible.**
- Oct. 2023 - Dec. 2023: Project related to identification of national trends in psychopharmacology and contentious polypharmacy events, as part of my **MSc thesis**. **Tech: Python, Django, PostgreSQL, Pandas, Matplotlib.**

Instituto Superior Técnico - Computer Science and Engineering Department (DEI)

SOFTWARE ENGINEER

Lisbon, Portugal

May 2022 - Jan. 2023

- Developer (coordinator since Sep. 2022) and maintainer of the department's PhD management application, where students, staff and faculty can manage applications for doctoral programs and their curricula. **Tech: Python, Django, PostgreSQL.**
- Provided **technical support** for the Department's staff.

PROJECTS

Development and deployment of a web application using a Kubernetes cluster on GCP

TECH: REACT.JS, EXPRESS.JS, MONGODB, GCP, KUBERNETES, DOCKER, TERRAFORM, ISTIO, PROMETHEUS, GRAFANA

Lisbon, Portugal

Sep. 2023 - Oct. 2023

- Development and deployment in GCP of a file transfer system as a Kubernetes cluster, with automatic Docker pod and node scaling using Terraform.
- Performance data from each pod retrieved by Istio's service mesh, aggregated by Prometheus and delivered using Grafana dashboards.

Ledger based on a permissioned blockchain

TECH: JAVA, MAVEN, PYTHON

Lisbon, Portugal

Feb. 2023 - Apr. 2023

- Blockchain based on the **Istanbul BFT consensus protocol**, ensuring state machine replication, strongly and weakly consistent reads, allowing network partition tolerance.
- As the best project in this year's edition of the course, it was used as base code for the 2023/24 edition's project.

Long short-term memory (LSTM) model with attention layers

TECH: PYTHON, PANDAS, PYTORCH, MATPLOTLIB

Lisbon, Portugal

Nov. 2022 - Jan. 2023

- Implementation of an encoder-decoder-based Spanish to English translator, using an auto-regressive long short-term memory (LSTM) as an encoder and a bidirectional LSTM as a decoder, along with a variant which included a bilinear attention mechanism in the decoder.

SKILLS

Program. Languages Python, Java, C, C++, C#, Prolog, JavaScript, TypeScript, PostgreSQL, MySQL, SQL Server, MongoDB

Frameworks Django, Spring, Vue.JS, React.JS, Express.JS, .NET

Data Science PyTorch, scikit-learn, Pandas, Matplotlib, Pentaho Data Integration, Saiku Analytics

Tools Git (+ GitHub, GitLab, Gitea), Nginx, Ansible, Terraform, Docker, Kubernetes

Languages Portuguese (Native), English (C1), Spanish (A2), Japanese (A2), French (A2)