

# JÚLIO MIGUEL BRAZ DA COSTA SILVA

## Software Engineer

@ julio.m.b.c.silva@gmail.com

Portugal

in julio-miguel-silva

jmbcs

https://jmbcs.github.io/portfolio/



## Work Experience

### Mid Software Engineer

#### Wavecom

Jan 2023 – Present

Aveiro, Portugal (Hybrid)

- Defined roadmap for a pioneering product, contributing significantly to its complete development lifecycle, undertaking the majority of the coding and design work.
- Implemented features by engaging with clients and understanding their requirements.
- Developed microservices in **Python** and **Golang**.
- Implemented **Protocol Buffers** and **gRPC** for microservices communication.
- Built **REST APIs** to communicate with **SQL** and **NoSQL** databases.
- Developed **Helm Charts** to deploy the product within a **Kubernetes** infrastructure.
- Developed **Docker** images and orchestrated deployments with **Docker Compose**.
- Extensively worked in **query optimization** for faster dashboard loading in **Grafana**, and created fully featured and ready-to-use dashboards for clients.
- Designed and implemented **ETL pipelines** using **Telegraf**.
- Utilized the **ONVIF** protocol to extract detections from camera metadata streams.
- Engineered data analytics algorithms recurring to the **Pandas** library.

### Junior Software Engineer

#### Wavecom

Jan 2021 – Jan 2023

Aveiro, Portugal (Hybrid)

- Contributed to funded projects and the development lifecycle.
- Developed a monitoring framework for **High-Performance Computing (HPC)** with **Grafana**, **VictoriaMetrics**, and **Python**.
- Leveraged **SQL** and **NoSQL** databases (**PostgreSQL**, **VictoriaMetrics**, **Elasticsearch**).
- Automated tasks using **Makefiles** and **Bash scripts**.
- Refactored code to improve readability and performance.
- Evaluated new technologies for project suitability.
- Used **version control systems** for codebase management.

## Education

### Master in Electronics/Telecommunications Engineering

#### University of Aveiro

2014 – 2020

Aveiro, Portugal

#### Thesis - Recovery and Identification of Moments - Grade: 19/20

- Development of a **Python** automatic image retrieval system capable of associating images to moments described in text.

## Relevant Links

- **BigHPC Project**: <https://bighpc.wavecom.pt/>
- **BigHPC Speaker**: <https://www.youtube.com/watch?v=5gaiovo9DD0>
- **Thesis Link**: <https://ria.ua.pt/handle/10773/30553>
- **Thesis Paper** : [https://ceur-ws.org/Vol-2696/paper\\_91.pdf](https://ceur-ws.org/Vol-2696/paper_91.pdf)

## Tech Skills

### Programming Languages

Python

Golang

### Web

HTML

HTMX

CSS

Tailwind

REST APIs

### Databases

PostgreSQL

SQL/NoSQL

Victoriametrics

PromQL

### Data serialization

JSON

CSV

Protobuf

YAML

### Python Libraries

FastAPI

Pydantic

Django

SQLAlchemy

Pandas

OpenCV

Requests

### Others

Prometheus

Git

Telegraf

Linux

Bash/Shell

Grafana

Docker/Docker Compose

vmAlert

Helm Charts

gRPC

SQLc

## Languages

Portuguese (Native)

English (Fluent)