



Miguel Costa

Date of birth: 23-08-2000 | **Nationality:** Portuguese | **Gender:** Male | **Phone number:** (+351) 938607796 (Mobile) | **Email address:** miguel.costa30303@gmail.com | **LinkedIn:** <https://www.linkedin.com/in/miguel-costa-a05a46216/> | **GitHub:** <https://github.com/miguelcosta30> |

Address: Rua Dom Nunes Alvares Pereira, 4585-014, Baltar, Portugal (Home)

WORK EXPERIENCE

 **CRITICAL TECHWORKS - BMW GROUP** – PORTO, PORTUGAL

Website <https://www.criticaltechworks.com/>

SOFTWARE ENGINEER – 21-11-2021 – CURRENT

Full Stack Developer

+4 Years Experience | Flutter & .NET

Project

Contributed to the development and maintenance of the **MyBMW/MINI** app, focusing on both front-end and back-end tasks. Specialized in map-related features and e-mobility services, with an emphasis on functionalities related to electric vehicles.

Key Skills:

- **Flutter:**
 - Working on one of the largest Flutter codebases in the world, powering a global-scale automotive app.
 - Contributed to a production app with millions of active users and a highly modular architecture.
 - Daily collaboration with international, cross-functional teams across Europe and Asia.
 - Developed core e-mobility functionalities: EV charging station discovery, detailed station data, and remote charging authentication.
 - Proficiency in **BLoC** for state management.
 - Strong focus on UI tests and widget tests.
- **.NET:**
 - Hands-on experience integrating and maintaining multiple microservices and core backend services using Domain-Driven Design (DDD).
 - Responsible for defining bounded contexts, implementing clean and modular architectures, and ensuring consistent communication patterns between services.
 - Strong focus on scalability, maintainability and clean code across distributed systems.
- **API Test:** Skilled in using Postman and Insomnia for API testing, ensuring seamless integration and functionality.
- **Project Management:** Experienced in task management, project tracking, and team collaboration using **Jira**, following **Scrum** methodologies.

EDUCATION AND TRAINING

09-2018 – 07-2021 Porto, Portugal

BACHELOR'S IN COMPUTER ENGINEERING Universidade Fernando Pessoa

Key Subjects

- Mathematics, Physics, and Statistics
- Digital Systems and IoT
- Object-Oriented Programming
- C Programming
- Assembly
- Web Development
- Computer Networks

Completed the course with an average grade of 14 out of 20 in course units.

Website <https://www.ufp.pt/>

Key Subjects

- Machine Learning (Deep Learning and ML)
- Planning and Decision-Making
- Expert Systems
- Intelligent Environments
- Natural Language and Conversational Systems
- Multi-Agent Systems

Completed with an average grade of 16 out of 20 in course units.

Website <https://www.isep.ipp.pt/>

● TECHNICAL SKILLS

Key Skills regarding Programming Languages, Technologies, and Tools

Programming Languages:

- Dart
- Python
- C/C#
- Java

Frameworks & Libraries:

- **Dart:** Flutter (State Management with BLoC, MapBox,)
- **Python:** TensorFlow, PyTorch, Pandas, Matplotlib, OpenCV, FastAPI, Flask, Jupyter Notebook
- **C#:** .NET (Entity Framework, Authentication, DDD Architecture)

Databases:

- MySQL, PostgreSQL, MSSQL

Embedded Systems & IoT:

- Arduino, Raspberry Pi, Microcontrollers

Development Tools & Practices:

- Git (Version Control)
- REST APIs (Development & Integration)
- API Testing: Postman, Insomnia
- Agile & Scrum Methodologies
- Project Management: Jira, Confluence Documentation

● SOFT SKILLS

Core Competencies & Social Skills

- **Strategic Planning:** Strong understanding of planning strategies and project management.
- **Problem-Solving:** Excellent analytical skills with a focus on effective and creative solutions.
- **Self-Learning & Research:** Highly self-motivated, with strong research abilities and a quick grasp of new technologies and programming languages.
- **Communication:** Strong verbal and written communication skills, ensuring clarity and effective collaboration.
- **Adaptability:** Ability to adapt quickly to new environments, tools, and challenges.
- **Teamwork & Independence:** Comfortable working both independently and as part of a team.

● PROJECTS

10-2018 – 07-2021

Bachelor's Degree Projects

- **Projects from various courses** [\[link\]](#) : All major projects completed during the degree are available on the GitHub repository linked in this document.
- **Final year projet - Vets4Pets** [\[paper\]](#) [\[demo\]](#) : A mobile application and website for a veterinary management platform, developed using Flutter for the app, Angular for the website, and GoLang for the backend. The application allowed users to create animal profiles, schedule appointments, and manage medications. It also featured map integration, an adoption forum, and a Q&A forum.

- **Client Satisfaction Diagnosis Expert System** [\[paper\]](#) : A client satisfaction diagnosis system was developed using a knowledge-based approach. The system employed an expert system built with Java Drools and Prolog to predict client dissatisfaction, identify underlying issues, and recommend personalized action plans. It used Certainty Factors for reasoning and a rule-based structure, enabling adaptability to various business models. Its web application interface featured a data management module and a dynamic dashboard for client insights.
- **Automatic Store Layout and Shelf Planning** [\[paper\]](#) : A store layout and shelf planning system was developed using artificial intelligence techniques. The project integrated genetic algorithms for store and shelf organization, leveraging historical sales data for enhanced decision-making. The system applied the Apriori algorithm for product association and neural networks for sales forecasting, ensuring optimal product placement. Implemented with PyGAD and scikit-learn, the solution featured a web interface built as a single-page application connected to a REST API.
- **Digital Sales Assistant** [\[paper\]](#) : A digital sales assistant was developed using deep learning and natural language processing techniques. The system employed GPT-3 for language understanding and response generation, while LSTM and GRU models handled sentiment classification. An Elasticsearch-powered recommendation engine provided product suggestions based on user preferences. The system featured a dialogue manager to maintain conversation context, adjusting its expressiveness according to user sentiment.
- **Autonomous Robotic Restaurant** [\[paper\]](#) : An autonomous restaurant system was developed using a multi-agent system, robotics, and IoT technologies. The project integrated robot waiters supported by a decision-making framework implemented with JADE (Java Agent Development Framework) and SPADE (Smart Python Agent Development Environment). Robot navigation and task assignment were managed through the Robot Operating System (ROS), Gazebo simulation software, and TurtleBot models. IoT devices, including Arduino-powered sensors, provided real-time data using the MQTT protocol.
- **Master's Thesis - iDetect Surveillance System** [\[paper\]](#) [\[demo\]](#): An intelligent surveillance system using computer vision, incorporating facial detection and recognition models. The system supported combinations of powerful deep learning techniques such as YOLO, Faster R-CNN, and Triplet Loss networks, as well as traditional algorithms like Viola-Jones and Eigenfaces. It was fully configurable through a mobile app, allowing users to add individuals, train the system, access real-time live video streaming, and receive instant push notifications. Additionally, the system featured an alert dashboard with an image gallery for reviewing detected events and incidents.

11-2024 – CURRENT
Personal Projects

- **Pathly**: AI-powered itinerary generator that creates personalized travel plans based on destination, time, budget and interests. The app uses intelligent filters and preference inputs to build fully structured travel itineraries, then renders the entire plan on an interactive map with points of interest, routes, timing and recommendations. Pathly focuses on simplicity, automation and a real “plug-and-go” experience, helping users plan complete trips in seconds while maintaining flexibility to customize each step. The project is currently in active development, with the goal of launching on the app stores in early 2026.

● **LANGUAGE SKILLS**

Mother tongue(s): **PORTUGUÊS**
Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
INGLES	C2	C2	C1	C1	C1
ESPANHOL	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **DRIVING LICENCE**

Driving Licence: B