

# MÁRIO AFONSO

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<https://github.com/Mario2211-debug/>

## SUMMARY

Computer Engineer with practical experience in fullstack web development, automation, and IoT. I've worked on personal and academic projects involving machine learning, systems integration, and cloud computing, creating intelligent and scalable solutions. I strive to apply AI and automation to solve real-world challenges and improve business processes.

## EDUCATION

<b>Bachelor's degree in computer engineering</b>	2016 — 2021
Instituto Superior Politecnico Kalandula de Angola, Luanda, Angola	
Coursework: Software Engineering, Distributed Systems, Databases, Computer Networks, Artificial Intelligence, Cloud & IoT, Information Security, Project Management, Business Management	
<b>Master's Degree in Computer Engineering and Computing</b>	2024 — Current
University Portucalense, Porto	
Coursework: Cloud Infrastructure, Computer Networks, Databases, IoT Integration, Data Science, and AI-Driven Collaborative Projects	
<b>Software Engineering (Non-Traditional Education)</b>	Feb 2025 — Current
Escola 42 Porto	
Coursework: Algorithms, Data Structures, Computer Networks, Databases & Systems Programming, Collaborative Projects	
<b>Junior Full-Stack Bootcamp (Intensive / Project-Based)</b>	Sep 2025 — Nov 2025
Bytes4Future	
Coursework: HTML, CSS, JavaScript & TypeScript, React, Node.js, Next.js, Git, APIs, UX/UI Design & Prototyping	

## TECHNICAL SKILLS

**Programming Languages:** Python, TypeScript, C, Shell & Linux

**Frameworks & Tools:** React, Node.js, Next.js, Tailwind, Express, Docker, Git

**Programming Languages:** C, Python, Typescript

**Databases:** MongoDB, MySQL, influxDB

**IoT & Cloud:** EdgeX Foundry, MQTT, Linux, Grafana

**Design:** Figma

**Other:** API Integration, Machine Learning, System Automation

## PROFESSIONAL EXPERIENCE

<b>Angola Telecom, Benguela, Angola: Technical Assistant (Internship)</b>	May 2019 – Aug 2019
• Assisted in network and telecommunications operations, supporting equipment configuration, maintenance, and incident resolution.	
<b>CISP (Integrated Public Security Center), Benguela, Angola: Data Center Technician</b>	Apr 2020 – Aug 2023
• Managed and monitored critical IT infrastructure using <b>Linux</b> , <b>Zabbix</b> , and proprietary datacenter platforms. Performed system maintenance, troubleshooting, and uptime optimization in high-availability environments.	

## PROJECTS

<b>Blog and Portfolio Website - Personal Project (Go Live)</b>	September 2023 - Current
Designed and developed front-end and back-end using Next.js, Node.js, and MongoDB to showcase skills, projects, and technical articles. Utilized AI-assisted development tools to enhance code quality and accelerate the development process.	
<b>Failure Prediction System - Academic Project</b>	December 2024
Developed an intelligent failure prediction system based on a Master-Slave architecture with Python, enhancing predictive maintenance capabilities.	
• Implemented communication and data processing between multiple slave units and a master controller.	
• Applied machine learning techniques to predict system failures accurately and a dashboard created from scratch with NextJS to visualize sensors in real time.	
<b>Edge IoT Network Academic Project</b>	April 2025
Created an Edge IoT network using EdgeX Foundry and MQTT protocol to enable communication between sensors and the platform.	
• Designed and deployed scalable IoT infrastructure on edge devices.	

- Developed sensor integration and real-time data handling mechanisms.

**Swift Core ERP - Personal Project (Go Live)**

Feb 2025 – Current

Developed and deployed a full-stack ERP system covering sales, inventory, finance, and HR management, demonstrating end-to-end project delivery and deployment.

- Built the backend with TypeScript/Node.js and a MongoDB database.
- Implemented the frontend using React for responsive and interactive UI.
- Integrated modules for sales, inventory, finance, and HR with real-time data updates.
- Deployed the system live, ensuring scalability and maintainability.

**CineVerse - Academic Project (Go Live)**

October 2025

Web system for managing movies with a modern interface and complete CRUD and filter features. Developed with Next.js, Express.js, MongoDB, TailwindCSS, Framer Motion, TypeScript

- Movie management: add, edit, view, and delete.
- Rating system and filters by status and rating.
- Responsive interface with dark theme design and animations.

**MeetEasy - Academic Project**

November 2025

Meeting management system with interactive calendar, groups, and notifications. Developed with Next.js, React, Express.js, MongoDB, TailwindCSS, Nodemailer and Context API

- Built the backend with TypeScript/Node.js and a MongoDB database.
- User authentication and management.
- Meeting creation, editing, and response.
- Dashboard with statistics and interactive calendar.
- Integration with email and Telegram for notifications.