# Alexandre Mascarenhas

Msc. Computer Science



#### **About me**

Hello, I'm Alexandre Mascarenhas, I love technology and the integration of software and hardware. I'd like to apply this knowledge in industry, especially in challenging projects that involve all the stages of inventing a product.

#### Personal

Alexandre Mascarenhas Nationality: Brazilian

#### **Especialization areas**

Embedded systems · Software enginnering • Evolutionary Computation · Development and maintenance of hardware

### Interests

Embedded systems / IoT Software engineering / Data science / Algorithm development Research / Linux

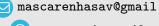
#### **Tools and Environments**

Linux / Git / VsCode / Nano / Python Notebook / Proteus / EagleCAD

#### Hobbies

Skateboarding / Bike / Soccer / Music / Travelling

in Alexandre Mascarenhas



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mascarenhasav

# EXPERIENCE

#### 2024-

**Ballast Control Operator** 

OPERATION AND MONITORING · Petrobras, Brazil 9 Description: Control and monitoring of the offshore platform stability system. Ensure operation within established production standards.



2024-2025 Al Engineer

DEVELOPMENT AND INFRASTRUCTURE · Hootzpa, Braz il 9

**Description:** Development of AI solutions. From prompt development to API availability via Kubernetes.



EMBEDDED AND MONITORING SYSTEMS · Sao Paulo Metro, Brazil 💡

Description: Develop a device capable of collecting data from assets in the field, analysing it locally and sending the information to a central server for subsequent analysis and predictive maintenance.

Achieved: The device was patented and in 2022, the device was responsible for saving the company 8 million in maintenance costs.

2023-2024 **Research Assistant** 

EMBEDDED SYSTEMS ENGINEER · Sony Computer Science Labs, Japan ♥

Description: Development of a COVID 19 related detection and prediction device. Based on an ARM processor with embedded Linux and local processing in C++ and

Achieved: Patent pending.

2022-2024 **Research Assistant** 

COMPUTER VISION · University of Tsukuba, Japan ♀

Description: The research uses neural networks (Unet) and subsequent data processing on raw digital images to estimate certain characteristics and determine plant growth rates.

Achieved: The project improved fruit valuation and collection by 60% compared to the previous method.



Sony CSL

# Academic

**Msc Computer Science** 

**EVOLUTIONARY COMPUTATION · Uni**versity of Tsukuba 🚊

2021 **Bsc Physics** 

COMPUTATION · University of São Paulo 🏛



**Bsc Electric Engineering** 

ELECTRONIC · Cruzeiro do Sul University <u>m</u>



Professional

Basic

# CERTIFICATES & AWARDS

CollaboTICS 2022 Workshop by Université Grenoble Alpes, France

2020 Python and Spark for Big Data and Machine Learning by 4Linux Brazil

2015 Industrial Electronic Honor Medal by Worldskills competition

2013 Bronze Medal by OBMEP - Brazilian Mathematic Olimpics of Public Schools, Brazil

#### LANGUAGES

**Enalish** Spanish Portuguese Native

# Coding



## **PUBLICATIONS**

2024 "Novel Genotypic Diversity Metrics in Realcoded Optimization on Multi-modal Problems", in IEEE WCCI CEC

2023 "AbCD: A component-wise adjustable framework for dynamic optimization problems", in ACM GECCO

2023 "Skateboarding stance and handedness: A brief analysis of relationship, proportions and influences", in: Arxiv

# **PROJECTS**

2023 AbFC **A**djusta**b**le **E**volutionary Components. A framework to research and Development in Evolutionary Computation. Link: https://abec-ec.github.io

2020 Metro Data Logger (MDL). A review of the smart data collector for subway railway systems (PORTUGUESE). Link: MDL

Terminaltor. A browser-based terminal just 2020 for fun. Link: Terminaltor