Eduardo **Medeiros**

Researcher and Master's Student

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Summary

I started learning how to program by myself in 2013/2014 because I have always wanted to discover how things are made, and what needs to be done for a computer to perform certain tasks.

In 2020 I've finished a **Bachelor's degree in Computer Science Engineering** at Universidade de Évora with a final classification of **16/20**. In 2023 I finished a **Master's degree in Computer Science Engineering** at Universidade de Évora with a final classification of **18/20**.

Interests: Algorithm optimisation, **machine learning** applied to daily basis problems, which involves data science and engineering, and **IoT** with multi-modal interaction. Natural Language Processing (**NLP**) and Automatic Speech Recognition (**ASR**) in their way combine all of the above, making it a huge topic of interest.

Hobbies: Exercise (gym, ex water polo player), play the guitar, and some video games with friends.

Experience

Universidade de Évora

Évora, Portugal

Researcher

Oct 2021 - May 2022

- Part of a project in partnership with Altice Labs
- **Goal**: develop an Automatic Speech Recognition/Speech To Text system using deep learning for European Portuguese.
- Toolkit used:
  - **Python**
  - **NVIDIA NeMo**, framework for developing GPU accelerated deep neural models
  - **Docker**, environment containerisation and replication
  - **Slurm**, job scheduling
- The work was developed in a team of 2 people mentored weekly by 2 professors.

Universidade de Évora

Évora, Portugal

Researcher

Mar 2021 - Set 2021

- Researcher at project NIIAA – Núcleo de Investigação Inteligência Artificial em Agricultura.
- **Goal**: development of a customised machine learning crop monitoring system applied to precision and intelligent agriculture.
- **Developed work**: created a regression model using the KNN algorithm to predict the soil's electric conductivity value from satellite radar images.
- Toolkit used:
  - **Python**
  - **pandas** and **numpy** libraries for **data pre-processing**
  - **scikit learn** for the **model creation**

Universidade de Évora

Évora, Portugal

Attendee/Participant

Nov 2018 - Nov 2018

- Participated in **"EIT Health Innovation Day"** held at Universidade de Évora.
- Placed **3rd** on a group contest where each group presented its business idea.

Universidade de Évora

Évora, Portugal

Monitor

Jul 2018 - Jul 2018

- Worked as a monitor in the course "Introdução à Internet of Things" integrating a project named "Ciência Viva no Laboratório – Ocupação Científica de Jovens nas Férias" hosted by the Department of Computer Science of Universidade de Évora.
- **Goal**: help the participants complete the course tasks.

Skills

Programming Languages	Java, C, Python, SQL
Tools and frameworks	Spring Boot, Scikit-Learn, Pandas, NumPy, Matplotlib, NVIDIA NeMo
Document Writing	LaTeX
Version Control	Git
Languages	Portuguese (native), English (advanced), Spanish (intermediate)

Education

Universidade de Évora

Évora, Portugal

Master's degree, Computer Science Engineering — *Sep 2020 - Mar 2023*

- **Final grade**: 18/20
- **Relevant subjects**: Machine Learning, Data Mining, Computer-Based Decision Support Systems and Multimodal Systems.

Universidade de Évora

Évora, Portugal

Bachelor's degree, Computer Science Engineering — *Sep 2017 - Jun 2020*

- **Final grade**: 16/20

Scientific Activities

Predicting soil electro-conductivity using Sentinel-1 images

Évora

Researcher — *Mar 2021 – Sep 2021*

- **Objective**: develop a customised crop monitoring system with advanced technologies applied to precision and intelligent agriculture
- **Goal**: create a **regression model** by using machine learning algorithms, such as k-nearest neighbours (KNN), Ridge, Lasso, and LinearSVM, to **predict the soil's electric conductivity** value from satellite **Sentinel-1** radar images. Page 51-52.

Optimized European Portuguese Speech-To-Text using Deep Learning

Évora

Researcher — *Oct 2021 – May 2022*

- **Objective**: develop an **Automatic Speech Recognition** System for the European Portuguese language.
- **Goal**: create a model using **deep learning** algorithms to transcribe audio recordings in the European Portuguese language. Page 125-126.
- **WER** = 0.0503

Program Committees

2020 **Organising Committee**, RECPAD 2020 — *Évora/Online*

2021 **Organising Committee**, RECPAD 2021 — *Évora*