

# Rui Melo

MSC COMPUTER SCIENCE STUDENT · DATA SCIENCE CONSULTANT

Coimbra, Portugal

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“How high would you dream if you knew you couldn't fail?”

## About Me

Passionate about Artificial Intelligence and Game Development. I always try to learn more and improve each day in everything I do from programming to playing sports. I'm a big fan of basketball and curious to learn more about Data Science and Machine Learning.

## Skills

**Technologies** Python, Pandas, Scikit-learn, SQL, Keras, TensorFlow, PyTorch, GitHub

**Languages** Portuguese, English, Spanish (Basic)

## Work Experience

### Management Solutions

Lisbon, Portugal

DATA SCIENCE CONSULTANT

Jan. 2022 - Present

- **Jan. 2022 - Mar. 2022** Responsible for analyzing a cost allocation model, its dimensions, statistical drivers to be used, legislation in place and reports generated for a project in the Insurance Sector
- **Jan. 2022 - Mar. 2022** Analysis of the data in the allocation model in place and the model to be implemented
- **Jan. 2022 - Mar. 2022** Creation of a pilot model, making use of Python (Pandas)
- **Jan. 2022 - Mar. 2022** Further analysis and adjust of the model to present the data generated
- **Mar. 2022 - Present** Responsible for structuring SQL tables for a project in the Telecommunication Sector

### Critical Software

Coimbra, Portugal

SUMMER INTERNSHIP

Jul. 2021 - Aug. 2021

- As a summer intern, I was selected for a group of 15 students from over 200+ candidates. It was my first contact, as a developer, with a big company. We interacted with testing frameworks and developed Python scripts to automate testing. We also had activities in C and we worked on a Kafka Project (Java).

### Prime IT

Porto, Portugal

PRIME COLLEGE AMBASSADOR

Nov. 2018 - Jul. 2019

- As a Prime College Ambassador, my main function was to represent Prime IT at CLSBE. We had a unique attitude and distinctive culture based on the happiness of the amazing team of IT experts, that allowed us to achieve continuous growth and success.

## Education

### Instituto Superior Técnico

Lisbon, Portugal

BOLOGNA MASTER DEGREE IN COMPUTER SCIENCE AND ENGINEERING

Sep. 2020 - Present

- Major: Artificial Intelligence
- Major: Game Development
- Thesis: "A Semantic Search System for the Supremo Tribunal de Justiça"

### University of Aveiro

Aveiro, Portugal

BACHELOR'S DEGREE IN COMPUTER SOFTWARE ENGINEERING

Sep. 2017 - Sep. 2020

### University of Cambridge

FCE

Aug. 2018

Cambridge B2 First Certificate

## Extracurricular Activity

### Member

Aveiro, Portugal

ERASMUS STUDENT NETWORK

Sep. 2018 - Jan. 2020

### Núcleo Estudantes Informática

Aveiro, Portugal

EXTERNAL COLLABORATOR

Nov. 2018 - Feb. 2019

## Personal Projects

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### Ultimatum Game in Complex Networks

PYTHON, NETWORKX

Oct. 2021 – Nov. 2021

- This project consists in studying and simulating Erdős–Rényi and Scale-Free Networks when playing the Ultimatum Game, which is a Socio-Economic Game. It was an individual project that allowed us to understand how humans react to unfair situations and their willingness to accept them.

### Captivity

UNITY, C#

Feb. 2021 – Jun. 2021

- 2D Game, co-op medieval adventure game for Windows PC with a bird's-eye view perspective. 4 team members. I was responsible for structuring the project and implement modules to be used when constructing levels.

### Self-driving Agents Adapting to a City

PYTHON (PYGAME, NUMPY)

Apr. 2021 – May. 2021

- 3D Simulation of a small City where uber/taxi drivers would learn where to position themselves better to maximize their profits. 3 team members. I was responsible for structuring the project, implementing the overall backend and q-learning reinforcement learning algorithm.

### MNIST Study

COLABS NOTEBOOKS, TENSORFLOW (KERAS)

May 2021 – Jun. 2021

- Use of different neural network architectures on the test set of the famous MNIST data set. Individual. I was responsible for creating the models and study their performance in order to create a paper

### Chess with Reinforcement Learning

UNITY, C#, ML-AGENTS, TENSORFLOW)

Dec. 2020 – Jan. 2021

- 3D Chess Game with Agents that would learn through reinforcement learning. Individual. I was responsible for structuring the project, create the functional game with menu and make use of ML-Agents package to train the agent by making it play against itself and visualize the process using TensorFlow

### Compute Flow

SVELTE, TYPESCRIPT, NPM, ELECTRON

Jan. 2020 – Jun. 2020

- Software able to provide an intuitive and interactive Interface for flow programming. 4 team members. I was responsible for creating the UI using Svelte and Typescript