

MARCELO GONÇALVES

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As a graduate of Engineering Physics MSc, I possess a solid foundation in Physics and Mathematics, and have developed a keen interest in solving complex problems through Machine Learning and Artificial Intelligence. Proficient in English, I have honed my skills in developing advanced deep learning models using Python and PyTorch, and explored classical ML models utilizing scikit-learn, particularly for my master's thesis. My ambition lies in contributing to and advancing the field of machine learning and AI through innovative work and research.

Education

 [linkedin.com/in/marcelo-rgoncalves](https://www.linkedin.com/in/marcelo-rgoncalves)

MSc in Engineering Physics

IST - University of Lisbon

Sept 2018 – Nov 2023

Lisbon, Portugal 

- **Master Thesis:** Machine Learning for Optimizing in situ resource utilization on Mars
- **Relevant coursework:** Computational Physics, Object Oriented Programming
- **Final grade:** 17/20 (very good)

MSc in Applied Physics

University of Twente – ERASMUS Exchange

Sept 2021 - Feb 2022

Enschede, Netherlands 

- **Relevant coursework:** [Machine Learning](#), [Data Science](#)

Experience

Teaching Assistant

Instituto Superior Técnico, University of Lisbon

Feb 2023 - Jul 2023

Lisbon, Portugal 

- Accompanied over 60 students across two fundamental courses: Mechanics and Waves, and Physics-I.
- Responsibilities: leading tutorial classes, offering personalized guidance, and supporting instructional activities.
- My commitment was recognized in the university feedback, where I was rated an impressive 8.6 out of 9.
- Developed communication and mentorship skills, in explaining complex concepts in an accessible manner.

Summer Internship

Laboratory of Instrumentation and Experimental Particle Physics (LIP)

Summer 2020

Lisbon, Portugal 

- Conducted in-depth analysis of simulations and simulated data related to the Fast Evolution of QGP.
- My findings led to insights into jet energy loss in particle collisions, highlighting notable differences between various collision types.
- Authored a research paper detailing the findings, later published within the institution.

Publications

Poster Presentation at AAI Spring Symposium 2023

Gonçalves, Marcelo; Ventura, Rodrigo; Guerra, Vasco; C Dias, Tiago.

March 2023

San Francisco, USA 

- Presented the novel research problem from my master thesis on [Machine Learning for Optimizing Plasma Resource Utilization on Mars](#).
- Selected for a top-tier AI conference in the USA, reflecting the innovative nature of the research.

Article

- Mendes, E., & Gonçalves, M. (2020). *Exploring the fast evolution of quark gluon plasma*, [LIP-STUDENTS-20-03](#)

Skills

- **Programming Languages:** Python, C++, C, Java
- **Frameworks and Libraries:** PyTorch, Tensorflow, Scikit-learn
- **Technologies and Tools:** Linux OS, Root, Wolfram Mathematica