

ESTÊVÃO GOMES

Physics Engineer

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EDUCATION

Master's in Physics (Applied and Engineering Physics)
Technische Universität München

Oct 2024 – Current Munich, Germany

- Emphasis on computational plasma physics and applications of machine learning and high performance computing to nuclear fusion.

Bachelor's in Physics and Technological Engineering
Instituto Superior Técnico

Oct 2021 – Jul 2024 Lisbon, Portugal

- Degree Average: 18.1/20.
- Attended "plasma physics and technology" and "nuclear fusion" courses from the master's programme.
- Member of the Physics Student's Association – Coordinator and editor of the yearly physics magazine, [PULSAR](#).
- Member of the chess team - Gold (2022) and Silver (2023) medalist team at the national rapid chess championship.

Summer Schools

Max Planck Institute for Plasma Physics

Sep 2024 Greifswald, Germany

- Focused on the main aspects of plasma physics with emphasis on nuclear fusion ([see more](#)).

Princeton Plasma Physics Laboratory

Jul 2024 – Aug 2024 Princeton, USA – remote

- Focused on the scientific and engineering challenges of designing and deploying stellarators for fusion ([see more](#)).

CENTRA – Center for Astrophysics and Gravitation

Sep 2023 Lisbon, Portugal

- Focused on Astrophysics and Gravitation ([see more](#)).

The Silesian University of Technology

Jun 2023 – Jul 2023 Gliwice, Poland – hybrid

- Focused on circular economy and energy transition ([see more](#)).

Athens Program

Czech Technical University in Prague

Nov 2023 Prague, Czechia

- Athens Program on PC Based Data Acquisition in Fluid Dynamics and Thermodynamics.
- A mostly practical course where I developed code to obtain, store and analyze data measured through small experiments I coordinated.

Project "Delfos"

University of Coimbra

Sep 2018 – Aug 2021 Coimbra, Portugal

- Attended monthly training sessions to represent Portugal at the International Math Olympiads (IMO).

ACHIEVEMENTS

- DAAD Scholarship**
Scholarship covering my master's studies at TUM for the school years 2024/2025 and 2025/2026.
- Gulbenkian New Talents Fellowship**
Most prestigious physics research fellowship in Portugal. 2023/2024.
- Merit Student**
Due to being one of the top students of my degree in the school years 2021/2022, 2022/2023 and 2023/2024.
- Gulbenkian+ Scholarship**
Merit-based scholarship recipient in the school years 2021/2022 and 2022/2023.

CONFERENCES

50th Conference on Plasma Physics
European Physical Society

July 2024 Salamanca, Spain

- Attended the 50th EPS Conference and presented a poster on "Differentiable Coil Optimization".

Stellarator-Mirror Symposium
University of Wisconsin-Madison

April 2024 Madison, USA

- Met the rest of [Rogério's Group](#) with whom I had been working the previous months.
- Presented my work and participated in group discussions about the use of JAX and differentiable codes in fusion.

LANGUAGES

Portuguese	Native
English	C2
German	B2
Spanish	A2
French	A1

WORK EXPERIENCE

Research Assistant

Max Planck Institute for Plasma Physics

Jan 2025 – Current Munich, Germany

- Implementing a robust algorithm to automatically identify QCMs in a EDA-H configuration of ASDEX-Upgrade detected via THB diagnostics.

Research Fellow

Calouste Gulbenkian Foundation

Oct 2023 – Sep 2024 Lisbon, Portugal

- Research project affiliated with Institute for Plasmas and Nuclear Fusion and with University of Wisconsin-Madison funded by the Calouste Gulbenkian Foundation.
- Working on developing [ESSOS](#), a differentiable framework able to do single-stage optimization of stellarator coils based on alpha particle losses.
- In the process of submitting a paper to the Journal of Computational Physics.

Teaching Assistant

Instituto Superior Técnico

Apr 2024 – Jul 2024 Lisbon, Portugal

- Taught problem classes in [Thermodynamics](#), and co-wrote, corrected and invigilated tests and exams.
- The class involved topics such as Thermodynamic Systems, Statistical Physics, Kinetic Theory of Gases and Black Body Radiation.

Internship

GoLP - Group of Lasers and Plasmas

Sep 2023 – Feb 2024 Lisbon, Portugal

- Internship with the topic "Data-driven extraction of reduced models for plasma physics processes".
- Implemented machine learning (symbolic regression) modules to analyze real plasma datasets.

Chess Teacher

Centro Norton de Matos

Oct 2022 – Aug 2023 Coimbra, Portugal – Remote

- Taught group chess classes twice a week in the school year 2022/2023.
- Played in the Portuguese 2nd league as team captain.

COMPUTER SKILLS

Python

JAX

C++


LaTeX

ROOT

Mathematica


InDesign

ORGANIZATIONS




Portuguese Chess Federation
Member of the general assembly.
Oct 2024 - Current

VOLUNTEERING




ReFood
Prevented food from going to waste and delivered it to those most in need.
Oct 2022 - Jul 2024

Social Skills



AfterSchool
Taught 1 calculus and 2 python courses to high schoolers and coordinated a machine learning course.
Nov 2022 - Nov 2023

Teaching Skills



WebSummit
Nov 2022 and Nov 2023

Social Skills

Team Work

OTHER INTERESTS

Chess

Idioms

TV series

Tennis