

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.
- 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.

WORK EXPERIENCE

Teaching Assistant
Technische Universität München

Mai 2025 – Current Munich, Germany

- Teaching assistant for [Introduction to Deep Learning](#).
- The class involves topics such as ML basics, Introduction to NN, NN training, CNNs, RNNs, LSTMs, GANs and VAEs.

Instituto Superior Técnico

Apr 2024 – Jul 2024 Lisbon, Portugal

- Teaching assistant for [Thermodynamics](#).
- The class involved topics such as Thermodynamic Systems, Statistical Physics, Kinetic Theory of Gases and Black Body Radiation.

Research Assistant
Max Planck Institute for Plasma Physics

Jan 2025 – Apr 2025 Munich, Germany

- Implemented an algorithm to automatically identify QCMs detected via THB diagnostics in a dataset of shots in the EDA-H mode of ASDEX-Upgrade.

Calouste Gulbenkian Foundation

Oct 2023 – Sep 2024 Lisbon, Portugal

- Research fellowship 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.

GoLP - Group of Lasers and Plasmas

Sep 2023 – Feb 2024 Lisbon, Portugal

- Internship on "Data-driven extraction of reduced models for plasma physics processes"; developed symbolic regression tools for analyzing experimental plasma data.

ACHIEVEMENTS

- DAAD Scholarship**
Merit-based scholarship. 2024/2025 & 2025/2026.
- Merit/Excellence Student**
Due to being a top student of my degree. Merit 2021/2022 & 2023/2024. Excellence 2023/2024.
- Gulbenkian New Talents Fellowship**
Most prestigious physics research fellowship in Portugal. 2023/2024.
- Gulbenkian+ Scholarship**
Merit-based scholarship. 2021/2022 & 2022/2023.

CONFERENCES

50th Conference on Plasma Physics
European Physical Society

July 2024 Salamanca, Spain

- Attended the 50th EPS Conference and presented a poster about [ESSOS](#).

Stellarator-Mirror Symposium
University of Wisconsin-Madison

April 2024 Madison, WI, USA

- Presented [ESSOS](#) to [Rogério's Group](#) and contributed to discussions on JAX and differentiable programming in fusion.

LANGUAGES

Portuguese	Native
English	C2
German	B2

ORGANIZATIONS

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

COMPUTER SKILLS

Python	JAX	PyTorch	TensorFlow
C	C++	LaTeX	git
			Mathematica