Luís Leitão

MSc Student in Engineering Physics

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About me

I'm passionate about applying mathematics, physics and machine learning to uncover patterns and model social phenomena: from financial markets and economic behaviour to language and cultural evolution. I'm drawn to problems whose solutions can make everyday life a little easier. Want to know more about me? Visit my website!

Technical skills

Programming: Python, SQL, LaTeX, Matlab
Tools: Git, VS Code, Linux, macOS, Windows

Languages

Portuguese - C2 (native)
English - C1
French - A2 (learning)

Interests

Reading, running, cycling, swimming, spearfishing, investing, music, surfing

Education

Master's degree in Engineering Physics   Sep 2023 – Present
FCUL – University of Lisbon

- Currently pursuing the second year of the Master's degree with coursework spanning optics, nuclear physics, control theory, and complex systems (with a strong focus on econophysics).
- Participation in the hands-on course at the JSI TRIGA research nuclear reactor, in Ljubljana, covering techniques for neutron detection.

Erasmus+ Exchange Student   Sep 2024 – Jan 2025
Sorbonne Université, Paris

- Integrated within the Master's in Physics, specializing in machine learning.

Bachelor's degree in Engineering Physics   Sep 2019 – Aug 2022
FCT - NOVA

- Developed strong foundations in mathematics, classical and quantum physics, electronics, and programming.
- Engaged in the student association, where I organized multiple workshops, lectures and interviews. As Treasurer, managed the budget and bank account, and prepared detailed financial reports.

Experience

Research Fellow   Mar 2023 – Present
NUC-RIA, LIP

- Supported by an 18-month FCT research grant, this work involved the calculation of atomic parameters for heavy ions and astrophysical simulations for kilonovae nucleosynthesis.
- Supervised two bachelor's students during a summer internship focused on developing a database and a corresponding website for data access.
- Publication on *Physical Review A*: R. F. Silva, A. Flörs, L. Leitão, "Systematic Bayesian Optimization for Atomic Structure Calculations of Heavy Elements"
- Presented 1 talk and 3 posters at conferences including: IBER2023, Russbach 2024, FÍSICA2024 and NIC2025.
- Python | FAC (relativistic atomic structure code) | SQL | HTML

Math and physics tutor   Jan 2020 – Sep 2024

- Math and physics tutor for high school students, balancing 4 to 9 hours per week alongside academic and research commitments.

Intern   Jan 2022 – Mar 2022
Instituto de Astrofísica e Ciências do Espaço

- Research on a sample of high redshift galaxies spectra taken from the MOSDEF survey, using Python and the FADO tool with the goal of predicting the contribution of nebulae to the global makeup of the galaxies.

Volunteering

School Assitant   Sep 2022 – Oct 2022
Escola Humberto Braima Sambu, Guiné Bissau

- Supported education and operations during school holidays.

Scout   Sep 2011 – Aug 2022
CNE

- Member for 11 years, leading teams and participating in various volunteer initiatives.