Telmo Cunha

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# **EDUCATION**

University of Lisbon - Instituto Superior Técnico (IST)

Lisbon, Portugal

2019-2025

MSc in Applied Mathematics and Computation - Pure Mathematics Track (GPA: 17/20) Thesis: Semilinear Wave Equations on Decelerated Expanding FLRW Spacetimes (Grade: 19/20)

(Courses finished in 2022; Thesis concluded in 2025.)

Lausanne, Switzerland

École Polytechnique Fédérale de Lausanne (EPFL) Swiss-European Mobility Programme in Theoretical Physics

2016-2017

University of Lisbon - Instituto Superior Técnico (IST)

Lisbon, Portugal 2012-2019

Lisbon, Portugal

BSc in Engineering Physics - Theoretical Physics Track (GPA: 15/20) (Conducted on a part-time schedule.)

## Academic Positions

Invited Assistant Professor at ISCTE – Instituto Universitário de Lisboa

Mathematics I and Mathematics II for 1<sup>st</sup> year Economics students.

September 2024 - August 2025

Teaching Assistant at ISCTE – Instituto Universitário de Lisboa

Lisbon, Portugal

Optimization for 1<sup>st</sup> year Management students.

February 2024 - July 2024

Summer Research Assistant at Aalto University (AScI Program)

Helsinki, Finland

Equivariance properties of Graph Neural Networks under the supervision of Prof. Vikas Garq.

June 2023 - September 2023

#### EXPERIENCE

#### Private Tutoring in Physics and Mathematics

Tutored several students in introductory math and physics courses at the university level.

Lisbon, Portugal 2015 - 2023 Lisbon, Portugal

Translation at Altice Foundation

Translation of mathematical content on Khan Academy from English to Portuguese.

December 2019 - April 2020

Summer Research Intern at Instituto Gulbenkian de Ciência (IGC)

Oeiras, Portugal

Modeling the evolution of cancerous cells under the supervision of Mónica Dias and Claudia Bank.

June 2016 - August 2016

#### Extracurricular

LxMLS22 Lisbon, Portugal

Attended the Lisbon Machine Learning Summer School.

2022

DeepLearning.AI Course

MOOC, Coursera

Took the Neural Networks and Deep Learning online course.

2022

MIT Course - Computer Science and Programming

MOOC, edX 2021

Took the Introduction to Computer Science and Programming Using Python online course.

# SKILLS SUMMARY

- Languages: Portuguese (Native); English (Fluent); French/Spanish (Basic reading).
- Programming Languages: Python (Pytorch/Numpy/Scikit-learn/Pandas); C/C++; R.
- Tools: Mathematica; LATEX.

## (Some) Academic Projects

- Mathematical Foundations of Machine Learning: Wrote a set of notes exploring the basics of Learning Theory, Machine Learning and Kernel Methods, see [mathematical foundations of deep learning].
- Manifold Learning: Two projects for the courses in mathematics for machine leaning and nonlinear optimization on manifold learning, see [manifold learning].
- Feature Selection: A project for the course in mathematics for machine leaning on feature selection via information theoretic considerations, see [feature selection].
- Collaborative Filtering: A project for the course in mathematics for machine leaning on collaborative filtering for a movie recommendation system based on matrix factorization methods, see [collaborative filtering].
- Geometric Quantization: A project exploring the basics of symplectic geometry and geometric quantization, see [geometric quantization].

#### Hobbies

• Climbing / Guitar Playing / Boardgames / Reading.