

EDUCATION

- **University of Lisbon - Instituto Superior Técnico (IST)** Lisbon, Portugal
Master's in Applied Mathematics and Computation - Current GPA: 17/20 2020 - 2024
Currently working on my master's thesis in the topics of Nonlinear Wave Equations and Mathematical Relativity with Profs. João Costa and Pedro Girão.
Courses: Foundations of Topology and Real Analysis; Groups, Rings and Modules; Ordinary Differential Equations; Partial Differential Equations; Differential Topology; Riemannian Geometry; Geometric Mechanics; Mathematics for Machine Learning; Nonlinear Optimization; Reinforcement Learning; Research Project in Geometric Quantization; Seminar course in Statistical Learning Theory and the Neural Tangent Kernel.
- **École Polytechnique Fédérale de Lausanne (EPFL)** Lausanne, Switzerland
Swiss-European Mobility Programme in Theoretical Physics 2016 - 2017
- **University of Lisbon - Instituto Superior Técnico (IST)** Lisbon, Portugal
Bachelor's in Engineering Physics - GPA: 15/20 2012 - 2018

EXPERIENCE

- **Research Assistant at Aalto University** Helsinki, Finland
Studying equivariant properties of graph neural networks under the guidance of Prof. Vikas Garg. April 2023 - September 2023
- **Altice Foundation - Khan Academy** Lisbon, Portugal
Translation of mathematical content on Khan Academy from English to Portuguese. December 2019 - April 2020
- **Summer Research Internship at Instituto Gulbenkian de Ciência (IGC)** Oeiras, Portugal
Modeling the evolution of cells with varying centriole numbers in cancer. June 2016 - August 2016

EXTRACURRICULAR

- **Summer School - LxMLS22** Lisbon, Portugal
Lisbon Machine Learning Summer School. 2022
- **MOOC - DeepLearning.AI Course** Coursera
Neural Networks and Deep Learning. 2022
- **MOOC - MIT 6.0001 Course** edX
Introduction to Computer Science and Programming Using Python. 2021
- **Summer School - University of Würzburg** Würzburg, Germany
Aerospace Information Technology. 2015
- **Author at PULSAR Magazine** Lisbon, Portugal
Writer for the physics student magazine at IST. 2014 - 2015

SKILLS SUMMARY

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

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 learning and nonlinear optimization on manifold learning, see [manifold learning].
- **Feature Selection:** A project for the course in mathematics for machine learning on feature selection via information theoretic considerations, see [feature selection].
- **Collaborative Filtering:** A project for the course in mathematics for machine learning on collaborative filtering for a movie recommendation system based on matrix factorization methods, see [collaborative filtering].
- **Geometric Quantization:** A research project exploring the basic mathematical setup for geometric quantization, see [geometric quantization].