

NUNO COSTA

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in biromiro

🎓 Nuno Costa

🌐 biromiro

EDUCATION

Masters in Informatics and Computing Engineering

Faculty of Engineering, University of Porto

📅 Sept 2022 – July 2024 🏆 19/20

Top 10%

Masters in Computer Science and Engineering (AI Track) – ERASMUS+ Politecnico di Milano

📅 Sept 2023 – Feb 2024 🏆 29.8/30

Bachelors in Informatics and Computing Engineering

Faculty of Engineering, University of Porto

📅 Sept 2019 – July 2022 🏆 19/20

Top 2%

HONOURS

🏆 **Outstanding MSc Thesis Award**
Awarded for the Master Thesis work at FEUP in 2024 by IEEE Portugal

🏆 **Vestas Best Master Thesis Award**
Awarded for the Master Thesis work at FEUP in 2024 by Vestas

🏆 **DGES National Merit Scholarship**
Academic recognition as one of the best Portuguese students in 2022.

🏆 **UP Incentive Prize**
Awarded as one of the best 21 freshmen of the University of Porto in 2020

📄 **New Talents Scholarship in Quantum Technologies of the Gulbenkian Foundation (Portugal)**
Awarded to conduct research with the theme *Using Metamorphic Testing to Assert the Correctness of Quantum Programs*

PROGRAMMING SKILLS

Python
Javascript
C/C++
SQL



PyTorch Tensorflow Jax
pandas scikit-learn numpy

EXPERIENCE

PhD Candidate
Technical University of Munich

📅 Mar 2025 – Present 📍 Munich, Germany

- Conducting research on peptide supramolecular self and co-assembly prediction through ML, screening the vast peptide space for new potential biomaterials with new forms and functions.
- Head teaching assistant in Physics-Informed Machine Learning and Machine Learning Essentials courses at TUM as part of the Chair of Multi-scale Modeling of Fluid Materials.

Data Scientist
Prima Assicurazioni

📅 Dec 2024 – Feb 2025 📍 Barcelona, Spain

- Working with Prima's Pricing and Underwriting Spanish team on price optimization modeling for insurance policy renewals, which led to an improvement in 7% in Loss-Ratio.
- Produced a proof-of-concept for customer price sensitivity through a causal inference approach, allowing for better control and predictive power on customer behavior regarding price changes.

Machine Learning Researcher
LIACC – Laboratory of Artificial Intelligence and Computer Science

📅 Jan 2024 – Oct 2024 📍 Porto, Portugal

- Conducted advanced research in Space Weather modeling as part of the Master Thesis, leveraging Physics-Informed Neural Networks and Neural Operators with PyTorch.
- Developed physically compliant and accurate surrogate models that outperformed state-of-the-art simulators by reducing computing time from 6 hours to approximately 50 milliseconds.
- PiNN surrogate is now operationally deployed, and initial work was published on the ESANN conference, with the prospect of additional publications of the remaining developed work.

Teaching Assistant
Faculty of Engineering of the Univeristy of Porto

📅 Feb 2022 – May 2024 📍 Porto, Portugal

- Tutored students in four distinct courses over four years: Theory of Computing, Algorithms and Data Structures, Artificial Intelligence, and Algorithm Design.
- Helped develop teaching materials such as weekly exercises and projects.

Full-stack Development Internship
Jumpseller

📅 June 2023 – Sep 2023 📍 Porto, Portugal

- With two other interns, developed, from scratch, a new email automation tool to allow stakeholders to build targetted marketing email campaigns seamlessly.
- To date, this tool has resulted in more than 50k emails sent across 400 custom built automations.

LANGUAGES


English (C1 Certified)
Portuguese (Native)
German (A1 Classes)



CERTIFICATIONS

International English Language Test-
ing System (IELTS)

British Council

📅 Oct 2023  8/9

Quantum in the Summer - An Intro-
duction to the Theory and Practice of
Quantum Computing

Radboud University

📅 Aug 2022

CentraleSupélec Summer School Pro-
gramme on Artificial Intelligence

CentraleSupélec, Université Paris-Saclay

📅 Jun 2022

SOFT SKILLS

Collaborator

Motivator & Leader

Critical Thinker

Good Communicator

Adaptable

Persistent

Empathetic

PUBLICATIONS

🎓 Master Thesis

- N. Costa, “Leveraging physics-informed neural architectures as surrogate models for space weather forecasting,” Master’s Thesis, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal, Jul. 2024.

👥 Conference Proceedings

- F. S. Barros, N. Costa, J. J. G. Lima, R. F. Pinto, and A. Restivo, “Connection to heliospheric,” in kkkk, Bruges, Belgium and online event, 2024, pp. 425–430, ISBN: 978-2-87587-090-2. [Online]. Available: <https://www.esann.org/sites/default/files/proceedings/2024/ES2024-110.pdf>.
- N. Costa, F. S. Barros, J. J. G. Lima, R. F. Pinto, and A. Restivo, “Leveraging physics-informed neural networks as solar wind forecasting models,” in ESANN 2024 Proceedings, European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning, Bruges, Belgium and online event, 2024, pp. 425–430, ISBN: 978-2-87587-090-2. [Online]. Available: <https://www.esann.org/sites/default/files/proceedings/2024/ES2024-110.pdf>.
- N. Costa, J. P. Fernandes, and R. Abreu, “Asserting the correctness of shor implementations using metamorphic testing,” in Proceedings of the 1st International Workshop on Quantum Programming for Software Engineering, ser. QP4SE 2022, Singapore, Singapore: Association for Computing Machinery, 2022, pp. 32–36, ISBN: 9781450394581. DOI: 10.1145/3549036.3562062.