

JOSÉ NUNO CATARINO BRITO

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HackerRank: [José Brito | HackerRank](#)

Driver's License: Yes



ABOUT ME

I am an individual which is eager to learn in a variety of subjects. I also never step down from a challenge that was imposed on me.

I am a problem-solving oriented individual with a strong interest in optimization algorithms and applied systems.

I am currently working on planning and scheduling optimization problems, applying algorithmic approaches to improve efficiency and support scalable service-oriented solutions, complemented by data analysis work conducted as a core component of the service development process.

EDUCATION

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|-------------------|--|
| 10/2020 – 11/2022 | master's in mathematics and applications – University of Aveiro, Aveiro, Portugal.
Thesis: Automatic Adjoint Differentiation for Mean Squared Error involving Expectations.
Supervisor: Evgeny Lakshtanov. |
| 09/2016 – 09/2020 | Degree in Mathematics, University of Aveiro, Aveiro, Portugal. |
| 09/2022 – 03/2023 | Specialization Course in Quantum Computing, University of Aveiro, Aveiro, Portugal. |
| 09/2023 – 06/2024 | Specialization Course in Automatic Learning and Data Analysis, University of Aveiro, Aveiro, Portugal. |

PROFESSIONAL EXPERIENCE

- | | |
|-------------------|--|
| 08/2019 - 09/2019 | Randstad - Nestlé
Factory Worker (part-time) <ul style="list-style-type: none">Responsible for the activities related to packing products; cleaning workplaces. |
| 09/2023 - 06/2025 | INESC-TEC Porto
Researcher <ul style="list-style-type: none">Responsible for designing and implementing an optimization system for planning and scheduling, focusing on efficient resource allocation and scalable service integration. |

RESEARCH PROJECTS

- | | |
|-------------------|--|
| 08/2021 - 01/2022 | Research Grant – BI LtPICS-2021 <ul style="list-style-type: none">The purpose of the research was to minimize various optimization schemes by trying to minimize the total time required for model calibration. |
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QUALIFICATIONS

Knowledge of stochastic differentiation as well as automatic adjoint differentiation in applications to quantitative finance.

Knowledge of optimization problems, including optimization of transportation routes and combinatorial optimization problem to find the optimal number of objects from a certain set of objects.

Good communication, strong commitment, eager to learn and teamwork.

Development of algorithms for intralogistics solutions, an optimization algorithm based on the best choice.

IDIOMS

Portuguese - Native

English - Advanced (reading, writing, and speaking)

COMPLEMENTARY KNOWLEDGE

Domain in MS-Office tools.

Knowledge in programming languages:

- Python
- Java
- C++
- SQL (learning at this moment).

Use of optimization software:

- Xpress.

SEMINARS AND WORKSHOPS

Advanced Training Course 2022: Applied and computational mathematics in engineering application, Aveiro, Portugal, from March 14-18, 2022.

20th Annual Workshop on Applications and Generalizations of Complex Analysis, Aveiro, March 25-26, 2022.

24th European Intensive Course on Complex Analysis, Generalizations and Applications, Aveiro, March 28-April 1, 2022.

The 19th International Conference on Artificial Intelligence: Methodology, Systems, and Applications, Varna, Bulgaria, September 18-20, 2024.

XXXII Jornadas de Classificação e Análise de Dados, Porto, Portugal, April 3-5, 2025.

PUBLICATIONS

José Brito, Andrei Goloubentsev, and Evgeny Goncharov. "Automatic adjoint differentiation for special functions involving expectations", 2022, [arXiv:2204.05204](https://arxiv.org/abs/2204.05204)

Santana, F., Brito, J., Georgieva, P. (2025). Deep Learning for Multi-class Diagnosis of Thyroid Disorders Using Selective Features. In: Koprinkova-Hristova, P., Kasabov, N. (eds) Artificial Intelligence: Methodology, Systems, and Applications. AIMSA 2024. Lecture Notes in Computer Science(), vol 15462. Springer, Cham. https://doi.org/10.1007/978-3-031-81542-3_7

José Brito, Conceição Rocha, Renato Fernandes, Pedro Guimarães, Filipe Silva, "Optimization Approaches for Scheduling Problems." *International Conference on Operations Research*, 2025. " XXXII Jornadas de Classificação e Análise de Dados, 2025.