Diogo Nuno Freitas

Date of birth: 01/10/1996 | **Nationality:** Portuguese | **Email:** diogo.nt.freitas@gmail.com | **Website:** https://diogo-freitas.me/

WORK EXPERIENCE

FUNDAÇÃO PARA A CIÊNCIA E A TECNOLOGIA (FCT) – PORTUGAL
RESEARCH FELLOW – 2020 – CURRENT

PhD research studentship.

UNIVERSITY OF MADEIRA – FUNCHAL, PORTUGAL
INVITED ASSISTANT – 2020 – CURRENT

Teaching the courses of Programming Paradigms and Advanced Programming.

INTERACTIVE TECHNOLOGIES INSTITUTE - LARSYS
RESEARCH ASSISTANT – 2019 – 2021

- Sports activity monitoring;
- Imaging and signal processing;
- Development of Artificial Intelligence tools;
- Server management;
- Support in the development of an Android application.

ASSECO PST – FUNCHAL, PORTUGAL
PROGRAMMER – 2017 – 2020

- Development of banking solutions;
- Development of internal tools.

NEUROREHABLAB (M-ITI) – FUNCHAL, PORTUGAL
SUMMER INTERNSHIP – 14/06/2016 – 14/09/2016

- Collaboration with other students/researchers from other cycles and areas of studies.;
- Content management;
- Development of an online portal;
- Development of games using non-invasive technologies.

EDUCATION AND TRAINING

2020 – CURRENT
PH.D. IN INFORMATICS ENGINEERING University of Madeira

Field of study Artificial Intelligence;, Belief revision.

2016 – 2020 Funchal, Portugal
MASTER'S DEGREE IN MATHEMATICS, STATISTICS AND APPLICATIONS University of Madeira

- Computational Statistics;
- Foundation and Applied Combinatorics;
- Mathematical Models;
- Statistic Complements;
- Optimization.

Final grade 17 | **Level in EQF** EQF level 7 | **Thesis** Nature-Inspired Algorithms for Solving Some Hard Numerical Problems.

2013 – 2017 Funchal, Portugal
BACHELOR IN INFORMATICS ENGINEERING University of Madeira

- Artificial Intelligence;
- Computer Architecture;
- Data Structures and Algorithms;
- Database Management Systems;
- Object-oriented Programming;

- Operating Systems;
- Programming Paradigms;
- Requirements Engineering;
- Software Processes and Metrics.

Final grade 16 | **Level in EQF** EQF level 6 | **Thesis** EmoCam: Capturing Emotions Using Non-Invasive Technologies

2010 – 2014 Funchal, Portugal
COMPUTER TECHNICIAN COURSE Associação Promotora do Ensino Livre (APEL)

- Computer Applications;
- Computer Technologies;
- Database Management Techniques;
- Internship (in this case, in the Departamento de Educação Física e Desporto, specifically in the Laboratório de Crescimento Físico Humano e Desenvolvimento Motor, at University of Madeira);
- Technological Project.

Level in EQF EQF level 3

PUBLICATIONS

Scientific Research Publications

- Freitas, D., Paulino, T., Bermúdez i Badia, S., Llorens, R., & Deutsch, J. E., "Open Rehab initiative: Second development iteration," in Proc. of the International Conference on Virtual Rehabilitation (ICVR), (Montreal, CA, USA), pp. 1–2, June 2017.
- D. Freitas, L. G. Lopes, & F. Morgado-Dias, "A neural network based approach for approximating real roots of polynomials," in Proc. of the International Conference on Mathematical Applications (ICMA), (Funchal, Portugal), pp. 44–47, July 2018.
- Mendonça, A., Brazão, P., Nascimento, A., & Freitas, D, "Estereótipos de género entre os estudantes da formação de professores em educação infantil (0-10 anos): Estudo de caso na universidade da madeira," Ensaios Pedagógicos, vol. 3, no. 3, pp. 96–106, Sept. 2019.
- D. Freitas, L. G. Lopes, & F. Morgado-Dias, "Particle swarm optimisation: A historical review up to the current developments," Entropy, vol. 22, p. 362, Mar. 2020 (IF=2.419, Q2).
- D. Freitas, F. Morgado-Dias, & A. Ribeiro, "Things you need to know if you are writing a scientific paper, thesis or report in Engineering or Science," TechRxiv, Aug. 2021.
- D. Freitas, L. G. Lopes, & F. Morgado-Dias, "A neural network-based approach for approximating arbitrary roots of polynomials," Mathematics, vol. 9, p. 317, Feb. 2021 (IF=1.747, Q1).
- Mendonça, F., Mostafa, S. S., Freitas, D., Morgado-Dias, F., & Ravelo-García, A. G., "Multiple time series fusion based on LSTM: An application to CAP A phase classification using EEG," arXiv preprint arXiv:2112.11218, Dec. 2021.
- Mendonça, F., Mostafa, S. S., Freitas, D., Morgado-Dias, F., & Ravelo-García, A. G., "Heuristic optimization of deep and shallow classifiers: An application for electroencephalogram cyclic alternating pattern detection," Entropy, vol. 24, p. 5, May 2022 (IF=2.524, Q2).
- Mendonça, F., Mostafa, S. S., Freitas, D., Morgado-Dias, F., & Ravelo-García, A. G., "Multiple Time Series Fusion Based on LSTM: An Application to CAP A Phase Classification Using EEG," International Journal of Environmental Research and Public Health, vol. 19, p. 688, Sept. 2022 (IF=4.614, Q2).
- Bettencourt, S., Freitas, D. N., Costa, S., & Caeiro, S., "Public Perceptions, Knowledge, Responsibilities, and Behavior Intentions on Marine Litter: Identifying Profiles of Small Oceanic Islands Inhabitants," Ocean & Coastal Management, vol. 231, p. 106406, Jan. 2023 (IF=4.295, Q1).
- Bettencourt, S., Freitas, D. N., Lucas, C., Costa, S., & Caeiro, S., "Marine Litter Education: From Awareness to Action," Marine Pollution Bulletin, vol. 192, p. 114963, July 2023 (IF=5.800, Q1).
- Alves, D., Freitas, D., Mendonça, F., Mostafa, S. and Morgado-Dias, F., "Wind Limitations at Madeira International Airport: A Deep Learning Prediction Approach," IEEE Access, vol. 12, p. 61211, May 2024 (IF=3.400, Q2).
- Freitas, D. N., Mostafa, S. S., Caldeira, R., Santos, F., Fermé, E., Gouveia, É. R., & Morgado-Dias, F., "Predicting Noncontact Injuries of Professional Football Players Using Machine Learning," PLOS One, vol. 20, pp. 1–21, Jan. 2025 (IF=2.900, Q1).
- Alves, D., Mendonça, F., Mostafa, S. S., Freitas, D., Pestana, J., Vieira, D., Radeta, M., & Morgado-Dias, F., "A Networked Station System for High-Resolution Wind Nowcasting in Air Traffic Operations: A Data-Augmented Deep Learning Approach," PLOS One, vol. 20, pp. 1–20, Jan. 2025 (IF=2.900, Q1).

HONOURS AND AWARDS

2022
Academic merit scholarship – Huawei, in partnership with .pt

Programa de Bolsas Huawei—worth €5,000.

2019
Diploma of Academic Excellence – University of Madeira

2018
Best Student Paper – IKnowD, International Conference on Mathematical Applications (ICMA)

LANGUAGE SKILLS

Mother tongue(s): **PORTUGUESE**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	B2	B2	B2	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user