MAFALDA FALCÃO FERREIRA, MSC

BIRTH 6/1994 **E** MAFALDAFALCAOTVF@GMAIL.COM **T** 917167101 **ORCID** 0000-0001-5371-0389

Currently a PH.D. Candidate in (PRODEI), and Invited Lecturer at the Faculty of Engineering of the University of Porto (FEUP), and a researcher at the Institute for Systems and Computer Engineering, Technology and Science (INESC-TEC). In love with technology and innovation ever since I was a little girl. Special interest in the areas of Data Science, Machine Learning, and Web Development. Also passionate about mathematics, sports, traveling and photography.

Professional experience

★ 2018 — *Invited Lecturer*, Faculdade de Engenharia da Universidade do Porto { http://www.fe.up.pt }
Linguagens e Tecnologias Web, third year, first semester. A Curricular Unit that aims to provide the students with skills in the most significant languages and Web technologies in the current technological context.
Laboratório de Programação Orientada a Objetos, second year, second semester. A Curricular Unit that aims to provide the students with skills in object-oriented programming and design, employing UML, and upholding good design principles and patterns.

★ 2018 — *Researcher*, INESC TEC { http://www.inesctec.pt }
Grant (BI) for the study and development of methodologies for knowledge extraction from Deep Learning Architectures (DL) and Artificial Neural Networks (ANNs), in the scope of the project ADIRA_I4.0: *Desenvolvimento de soluções tecnológicas e de software Indústria 4.0 aplicadas a bens de equipamento*, *c.f.* POCI-01-0247-FEDER-017922 CESE/INESC TEC.
Supervisor: Prof. Rui Camacho (FEUP/DEI)

2017 — 18 *Junior Researcher*, Fraunhofer Portugal AICOS { http://www.fraunhofer.pt }
Scientist and Developer for the *EyeFundusScope* project, studying *Deep Learning* approaches to Diabetic Retinopathy classification problems[1].

2016 — 17 *Research Assistant*, Fraunhofer Portugal AICOS { http://www.fraunhofer.pt }
Developed a framework for Malaria parasites detection in microscopic images (for the *MalariaScope* project), adaptable to other classification problems.

2015 — 17 *Teaching Assistant*, Faculdade de Engenharia da Universidade do Porto { http://www.fe.up.pt }
Projeto FEUP, first year, first semester. A Curricular Unit that aims to receive and integrate new coming students, teaching them *Soft Skills* that will be useful for their academic journey and professional future.

Education

★ 2018 — PH.D. Candidate in the Doctoral Program in Informatics Engineering (PRODEI) at FEUP.

2012 — 17 M.SC. in Informatics and Computation Engineering (MIEIC) at FEUP.
Statistical Comparison of Different Machine-Learning Approaches for Malaria Parasites Detection in Microscopic Images { http://hdl.handle.net/10216/106477 }
Final dissertation mark: 18/20. Supervisor: Prof. Luís Filipe Teixeira.

[1] Both Fraunhofer Portugal AICOS projects belong to the *Deus Ex Machina* project (DeM), in the Eyes of Internet of Things Competence Center research line (EIT-CC), *c.f.* NORTE-01-0145-FEDER-000026.

Publications

Conference Proceedings

⋆ 2019 M. Falcão Ferreira, R. Camacho, and L. Filipe Teixeira, *"Autoencoders as Weight Initialization of Deep Classification Networks for Cancer versus Cancer Studies"*, CIBB 2019 - 16^{th} International Conference on Computational Intelligence methods for Bioinformatics and Biostatistics (CIBB-2019). Bérgamo, Italy. *To appear.*

2018 M. Falcão Ferreira, R. Camacho, and L. Filipe Teixeira, *"Autoencoders as Weight Initialization of Deep Classification Networks Applied to Papillary Thyroid Carcinoma"*, BIBM 2018 - IEEE International Conference on Bioinformatics and Biomedicine (BIBM-2018). Madrid, Spain.
DOI: { 10.1109/BIBM.2018.8621356 }

2017 M. Falcão Ferreira, L. Filipe Teixeira, and L. Rosado, *"Improving Malaria Parasites Detection in Thick Blood Images: A Statistical Approach"*, INForum 2017 - Simpósio de Informática (INFORUM-2017). Aveiro, Portugal.
Part of: { http://inforum.org.pt/INForum2017/docs/comunicacoes-do-inforum2017/ }

Journals

⋆ 2019 M. Falcão Ferreira, M. K. Markey, *"Teaching cross-cultural design thinking for healthcare"*, Artificial Intelligence in Breast Cancer Care. *To appear.*[2]

Media Coverage

2017 Agência Lusa, *"Tecnologia criada no Porto deteta malária através de imagens obtidas com* smartphones", Portugal. { https://goo.gl/TnGrKj }

Knowledge Transfer Activities

⋆ 2019 — 6/2019 Project Committee Member of the 8th Edition of the VISUM Summer School (VISUM2020)
Teaching Assistant, The University of Texas at Austin { https://www.utexas.edu/ } & Faculdade de Engenharia da Universidade do Porto { http://www.fe.up.pt }
International Perspectives on Biomedical Engineering Design: a Maymester[3] that aims to enable students to consider sociotechnical factors in designing clinically translatable solutions; students learn human-centered design methods to understand the people for whom they are designing and to identify actionable problem statements.

2018 — 19 Organization Chair of the 14th Edition of the Doctoral Symposium in Informatics Engineering (DSIE19), hosted at FEUP.

[2] This journal is a joint special issue of the Springer Journals *Artificial Intelligence in Medicine* and *The Breast*.

[3] Maymester courses are short-term (4 weeks), faculty-led study abroad programs in which a small group of UT Austin undergraduate students travel with a UT Austin faculty member to an international location (in this case, Porto).