NUNO RODRIGUES

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EDUCATION

PhD in Computer Science *2020 - 2024 (awaiting defense)*
Faculty of Sciences of the University of Lisbon, Portugal
Champalimaud Foundation, Portugal
Skills acquired: Medical imaging analysis, Dataset curation, Medical computer vision

Master in Computer Science *2018 - 2020*
Faculty of Sciences of the University of Lisbon, Portugal
Skills acquired: Neuroevolution, Fitness landscape analysis, Metaheuristics
Grade: 18/20 , Thesis: 20/20

Bachelor in Computer Science *2013 - 2018*
Faculty of Sciences of the University of Lisbon, Portugal

TECHNICAL SKILLS

Languages:	Python, Java
Machine Learning Frameworks:	Sickit-Learn, Keras, PyTorch, Monai, nnUNet, Ultralytics
Domains:	Computer Vision, Tabular Data, Medical Imaging, Evolutionary Computation
Additional interests:	LLMs for RAG, Recommendation Systems, Adversarial Attacks
Summary:	6+ and 5+ years of experience with python and scikit/pytorch, respectively

COLABORATIONS

IPMA *Dec 2023 - Present*
- Developing computer vision models to predict the age of *Micromesistius poutassou* fishes based on the growth rings present in their otoliths.

Mare & DOCAPESCA *Jul 2022 - Present*
- Developing machine learning models to differentiate wild-caught from aquaculture-grown bream, sea bass and octopi based on elemental signature profiles.

CHAMPALIMAUD *Oct 2020 - Present*
- Developing prostate whole-gland segmentation and lesions detection models that were used in the clinic for histopathology validation.

MARE *Jul 2020 - Sep 2021*
- Developed deep learning models to detect the presence of emerging contaminants in microalgae.
- Developed machine learning classifiers to predict the origin of octopus caught in the Portuguese shore based on elemental signature profiles.

ISA *Apr 2018 - Dez 2018*
- Developed a genetic-programming based pixel classifier for remote-sensing applications.

PROJECTS

Horizons2020 ProCAncer-I, Champalimaud *Oct 2020 - Sep 2024*
- ProCAncer-I's vision is to deliver a prostate cancer (PCa) AI platform featuring a unique collection of PCa mpMRI images worldwide, with a focus on delivering novel AI clinical tools for advancing the characterization of fPCa lesions, assessment of the metastatic potential, and early detection of disease recurrence.

BINDER, LASIGE & Champalimaud *Jan 2021 - Aug 2021*
- The project's objective is to improve the state of the art in Radiomics analysis of breast and rectal cancer, using existing and novel Machine Learning and Deep Learning methods.

OPTOX, LASIGE & Champalimaud *Jul 2020 - Dec 2020*
- Developing AI model for ecotoxicological indexes development. This multidisciplinary approach intents to produce innovative ecotoxicology tests of great added value for future management requirements and impact assessment.

PREDICT, LASIGE *Jan 2020 - Jun 2020*
- Propose cutting-edge machine learning techniques to address the problems emerging from electrical medical records, for therapy selection of rheumatic diseases.

PERSEIDS, LASIGE *Feb 2019 - Oct 2019*
- Personalizing cancer therapy through integrated modeling and decision.
- Developing a Genetic Programming algorithm capable of performing efficient feature selection and subsequently using the new dataset to obtain results comparable and/or higher than state-of-the-art models.

GM3, BIOISI & ISA *Apr 2018 - Dec 2018*
- Developing a genetic programming based pixel classifier for remote-sensing applications.

HIGHLIGHTED PUBLICATIONS

Analysis of domain shift in whole prostate gland, zonal and lesions segmentation and detection, using multicentric retrospective data.
Computers in Biology and Medicine, 2024

Impact of scanner manufacturer and endorectal coil on prostate cancer mpMRI classification with deep-learning — a multicentric retrospective study
Radiology AI, 2024 [under review]

Artificial Intelligence Meets Marine Ecotoxicology: Applying Deep Learning to Bio-Optical Data from Marine Diatoms Exposed to Legacy and Emerging Contaminants
Biology, 2021

Full list of publications available in my Google Scholar

TEACHING & RESEARCH

Sustainable fisheries stock assessment *Dec 2023 - Present*
- Developing a project proposal for the SACCCT FCT project grants regarding developing computer vision models for fisheries stock assessment using fish otolith data. This project is being developed in partnership with the Portuguese Institute for Sea and Atmosphere (IPMA).

Master thesis co-supervisor *2021 - 2022*
- Unofficial co-supervisor of two master thesis in the elective year of 2021-2022.

Assistant Professor, NOVA IMS *Sep 2020 - Jul 2023*
- Planning and lecturing the practical classes for the Computational Methods for Optimization course.
- Planning and lecturing the practical classes for the Neuroevolution course.

AWARDS

2023 - Academic and Social Merit Scholarship by Huawei/.PT, Lisbon, Portugal

2021 - PhD Grant by Fundação para a Ciência e a Tecnologia (FCT), Lisbon, Portugal

2020 - Merit Scholarship by Direção-Geral do Ensino Superior (DGES), Lisbon, Portugal

ACADEMIC & SCIENTIFIC ACTIVITIES

Member of the local organizing team of GECCO 2023
Member of the Program Committee of the NE track at GECCO 2023
Member of the Program Committee of the NE and EML tracks at GECCO 2024
External reviewer for IJCAI 2023 and 2024 Reviewer for multiple Journals on the topics of machine learning, deep learning, evolutionary computation and medical imaging

LANGUAGES

- Portuguese - Native (C2)
- English - Proficient (C2)
- Spanish - Basic (A2, learning)
- Italian - Basic (A1, learning)