(+351) 915207737
Portugal
nuno.mvrodrigues1@gmail.com

Nuno Rodrigues

Webpage
Research Work
Linkedin

Experienced data scientist with 5+ years developing machine learning and deep learning solutions across academic research and industry applications. Specialized in translating complex AI methodologies into practical, impactful solutions for multidisciplinary challenges. Proficient in modern ML/DL frameworks with a focus on delivering measurable results.

Skills

Tools and Languages	Python, SQL, Snowflake, Git, AWS, scikit-learn, Tensorflow, Keras, Pytorch, HuggingFace, LangChain, LangGraph, Ultralytics, YOLO, Roboflow, XGBoost, CatBoost, Optuna, Autogluon
Experience	**Tabular** (classification, regression), **Genetic Programming**, **Recommendations** (Search, Rank, Retrieve, Next-Best-Action), **Computer Vision** (Image Classification, Object Segmentation, Object Detection, Pose Estimation), **GenAI** (RAG, Agentic Systems)
Communication	English (fluent speaker), Portuguese (native speaker), Spanish (A2)

Technical Experience

Senior Data Scientist — **Oct 2024 — Present**
Zendesk — *Lisbon, Portugal*

Tasks: Classification, Recommendations, RAG, Agentic Systems

- Developed new prospect conversion, deal size, and next-best-action cross-sell models to help GTM stakeholders focus on high quality accounts to maximize ARR.
- Led the development of churn risk prediction models for CX and Digital stakeholders. The models help these teams to preemptively act on high risk customers, saving millions of ARR.
- Led the development of predictive models to convert trial accounts into paying customers. Predicting trial conversion probability and performing recommendations regarding the best SKU and number of subscriptions to purchase.
- Working on creating an agentic RAG system for customer facing support agents. This system works by summarizing customer requests, identifying the pain-points, retrieving relevant documents and salesforce account information, and generating actionable answers.
- Working on creating a multi-agent system to help AEs and GTM org to get valuable actionable insights about existing customers as well as recommending them similar accounts cross-selling / upselling of products.
- Performing data migration, from GCP to AWS, and feature / data model curation using DBT+Snowflake.

Data Scientist / AI Researcher - Computer Vision — **Oct 2020 — Sep 2024**
Champalimaud Foundation — *Lisbon, Portugal*

Tasks: Object Segmentation, Object Detection, Image Classification, RAG

- Developed object detection models for locating and cropping around the prostate gland for regular and wide FOV T2W MRI sequences. This resulted in increasing available data by transforming wide FOV to regular FOV, and greatly reducing memory usage when training models due to smaller 3D image sizes.
- Developed several biparametric models (T2W, DWI and ADC modalities) to perform disease aggressiveness classification and prostate gland, zone, and lesion segmentation.
- Developed multimodal models that combined 3D image data with tabular metadata from the patients, which outperformed regular vision only models for disease aggressiveness classification.
- Developed a lesion detection model that could accurately identify areas where aggressive lesions were present, segment those lesions, and use the aggressiveness estimation as input for a heuristic based recommender system. This system would then recommend whether a biopsy should be performed, helping to reduce the high number of unnecessary biopsies performed in prostate cancer patients.
- Created a Multimodal RAG system to find similar medical reports and radiology images to aid junior radiologists.

Assistant Professor — **Sep 2020 — Aug 2023**
Nova IMS — *Lisbon, Portugal*

- Creating and lecturing the practical classes for the Computational Methods for Optimization course.
- Creating and lecturing the practical classes for the Neuroevolution course.

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Data Scientist / AI Researcher — **Apr 2018 — Aug 2021**
LASIGE — *Lisbon, Portugal*

Tasks: Tabular, Genetic Programming, Image Classification

- Project GM3: Developing a genetic programming based pixel classifier for remote sensing applications.
- Project PREDICT: Developing machine learning models for therapy selection of rheumatic diseases based on electrical medical records.
- Project PERSEID: Development of machine learning models for personalizing cancer therapy.
- Project OPTOX: Developing AI models for ecotoxicological indexes development. This goal of this multidisciplinary project was to produce innovative ecotoxicology tests of great added value for future management requirements and impact assessment.
- Project BINDER: Developing Radiomics based machine learning models for the analysis of breast and rectal cancer.

Education

Ph.D. in Computer Science, *Faculty of Sciences, University of Lisbon* 2024
Thesis: Deep Learning Models for Clinical Assessment of Prostate Cancer

M.Sc. in Computer Science, *Faculty of Sciences, University of Lisbon* 2020
Thesis: Exploring Neuroevolution Fitness Landscapes for Optimization and Generalization

B.Sc. in Computer Science, *Faculty of Sciences, University of Lisbon* 2018

Academic and Social Merit Scholarship by Huawei/.PT, Lisbon, Portugal 2023
PhD Grant by Fundação para a Ciência e a Tecnologia (FCT), Lisbon, Portugal 2021
Merit Scholarship by Direção-Geral do Ensino Superior (DGES), Lisbon, Portugal 2020

Highlighted Research

Analysis of domain shift in whole prostate gland, zonal and lesions segmentation and detection, using multicentric retrospective data [Link]

Effective reduction of unnecessary biopsies through a deep-learning-assisted aggressive prostate cancer detector [Link]

A comparative study of automated deep learning segmentation models for prostate MRI [Link]

Impact of Scanner Manufacturer, Endorectal Coil Use, and Clinical Variables on Deep Learning–assisted Prostate Cancer Classification Using Multiparametric MRI [Link]