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Curriculum Vitae

Champalimaud Centre for the Unknown
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Professional Experience

2021–2022 **Machine Learning Engineer**, *Biometrid*, Lisbon, Portugal.

2020–2021 **Machine Learning Engineer**, *K1-Digital*, Lisbon, Portugal.

2019–2020 **Research Technician**, *Champalimaud Foundation - Neuroscience Research, Vision to Action Lab*, Lisbon, Portugal.

2017–2019 **Master Student**, *University of Lisbon/Champalimaud Foundation - Neuroscience Research in the Systems Neuroscience Laboratory under supervision of Doctor Zachary F. Mainen and professor Luís Correia*, Lisbon, Portugal.

2016–2017 **Teaching Assistant internship**, *Philosophy*, Santa Cruz College, São Paulo, Brazil.
This internship consisted of assisting a high school philosophy teacher with preparing and ministering classes as well as helping students learn the materials given in class.

2013–2016 **Tutor**, *Mathematics*, Espaço Alternativo, São Paulo, Brazil.
Tutored students from all grade levels in a private tutoring school (around 60 students in total).

2011–2016 **Private tutor**, *Mathematics*, São Paulo, Brazil.
Worked autonomously teaching mathematics to high school students (around 40 students in total).

Experience

2021–2022 **Machine Learning Engineer at Biometrid**.

- Currently I work on the development, deployment and maintenance of multiple machine learning solutions aimed at applying computer vision and OCR to document id cards.
- This work involves building ETL and CI/CD pipelines to sustain the infrastructure of development, deployment and maintenance of multiple machine learning solutions such as image classification models for classifying document types, object detection models for detecting document regions of interest, spoof detection models to detect fake documents, as well as general data visualization and preprocessing techniques.
- The actual development of the machine learning models, with experiment management to assess and monitor performance. The current suite of models in production involve image classification, object detection and object segmentation.
- **Tools:** Python, docker, SQL, MongoDB, Reddis, tensorflow, keras, pytorch, matplotlib, seaborn, pandas, numpy,

2020 – 2021

Machine Learning Engineer at K1.

- Time Series: I developed a sales forecasting system for a major Portuguese retailer. This work involved developing a model to optimize the area allocation of an electronics store using sales data as well as in-store product allocation information.
- Computer Vision: I developed a model to detect damage severity and location in cars listed for insurance claims. The work involved developing a multi-class image classifier to determine the degree of severity of the damaged cars as well as an object detection model to locate the damages in the images provided by the customers making the insurance claims.
- Marketing convergence: In this project I worked on developing a classifier that could indicate the likelihood of convergence for a marketing campaign of a major electricity company in Portugal. The work involved developing a Data Analysis workflow in Jupyter Notebooks, as well as working with decision tree classifiers, clustering algorithms and custom neural networks.
- NLP and Recommendation Systems: I built a recommendation system based on BERT (bidirectional encoder representations from transformers) for recommending relevant search results for an online retail store in the context of a task project. The model used embeddings to index the space of possible products and would return the closest points from the embedding given a search query.
- **Tools:** Python, tensorflow, keras, pytorch, numpy, matplotlib, seaborn, pandas.

2019 – 2020

Research Technician.

- I worked on data analysis and deep learning applications involving deep neural networks and genetic algorithms to estimate receptive field properties of visual neurons for the "Vision to Action Lab" in the Champalimaud Foundation.
- Performed Data Analysis on simulated data involving linear regression, logistic regression, SVMs, decision trees and clustering algorithms.
- **Tools:** Python, matlab, numpy, matplotlib, seaborn, keras, pandas, tensorflow.

2017 – 2019

Masters.

Thesis

- The project involved developing a deep learning approach to investigate the role of serotonin in the modulation of freely moving behavior of mice. It was comprised of applying generative adversarial networks, capsule networks and multi-layer perceptrons to perform unsupervised detection of activation of serotonergic neurons located in the dorsal raphe nuclei of the mice.
- Coded a siamese network to distinguish static poses acquired from frames depicting stimulated and non-stimulated mice.
- Coded a modified page rank algorithm to rank behavioral states of mice.
- Coded a graphic user interface to accelerate the generation of labelled data sets for behavior analysis.
- Developed an analysis pipeline for testing multiple machine learning models.

1st year

- Took classes in programming (Python), statistics and machine learning.
- **Tools**: Python, numpy, matplotlib, seaborn, keras, pandas, tensorflow, pyforms, tkinter.

Education

2019 / 2017 **MSc. Cognitive Science and Artificial Intelligence**, *University of Lisbon/Champalimaud Foundation - Neuroscience Research*, Lisbon, Portugal.
Master's grade: 17/20. Master thesis grade: 19/20

2017 / 2012 **BSc. Philosophy**, *University of São Paulo*, São Paulo, Brazil.

2012 / 2009 **BSc. Applied Mathematics (incomplete)**, *University of São Paulo*, São Paulo, Brazil.

Languages

Portuguese ●●●●● (Native)

English ●●●●● (Fluent)

French ●●●●○ (Fluent)

Italian ●●●○○ (Intermediate)

Conferences

2019 **Computational and Systems Neuroscience (attended)**, *Lisbon*, Portugal.

2017 **Free Open Source Developers European Meeting (attended)**, *Brussels*, Belgium.

Certification

2019 **TOEFL (scores: reading: 26/30; listening: 26/30; speaking: 30/30, writing: 23/30; total: 105/120)**, Lisbon, Portugal.

2018 **Volunteer at the Symposium: "Quantitative Approaches to Behaviour and Neural Systems"**, *Champalimaud Centre*, Lisbon, Portugal.

2018 **Deep Learning Specialization**, *Coursera (online course)*, Lisbon, Portugal.

2018 **Python Programming**, *Udemy (online course)*, Lisbon, Portugal.

2017 **Data Science**, *Cognitive Class (online course)*, Lisbon, Portugal.

Extracurricular Activities

Volunteering Built an OCR application to help social workers transcribe imigrant documents using Google Cloud tools.

Writing *Medium Profile*

Talks Prepared and ministered talks about Artificial Intelligence to the community association "A Desassociada" in Cascais.

Sports Brazilian jiu-jitsu (brown belt level)