

DIOGO DUARTE

Neuroscience Ph.D, Engineering MSc

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EXPERIENCE

Lab manager & Research Software Engineer

NOVA SBE

📅 2025-current 📍 Cascais, Portugal

- Managed IT and lab resources for experimentation and teaching
- Developed and validated software for data collection and automation
- Created end-user evaluation methods for clients in SaaS and AI solutions

🔧 Data and software engineering, system administration

Graduate Researcher

Fundação Champalimaud

📅 2018-2024 📍 Lisboa, Portugal

- Designed and assembled neurobehavioral setups for mouse research
- Engineered multi-stream data acquisition systems (NI DAQ + 430 fps video)
- Computationally optimized estimation of firing rates from big data (30x faster)
- Tracked animal movement (classical image processing + deep CNNs)
- Predicted animal behavior from neural data (neural decoding by multilinear regression)
- Deployed virtual containers for large scale neural simulations in remote servers

🔧 DAQ electronics, multi-sensor integration
🔧 computer vision, GPU computing
🔧 artificial neural networks, Docker

Software engineer & Data Scientist

Instituto de Biofísica e Engenharia Biomédica

📅 2017 📍 Lisboa, Portugal

- Created a medical imaging analysis pipeline for pre-surgical planning
- Tuned blind source separation models for functional imaging in patients
- Communicated closely with medicine and engineering teams
- Automated the generation of functional imaging reports

🔧 Matlab, Blind Source Separation, DICOM

Game Software Developer

Museu dos Valores Universais

📅 2016 📍 Mafra, Portugal

- Implemented a facial mimicry interactive game for children

🔧 Unity, C#, Affective AI

Researcher / MSc. Student

Institute of Cognitive Neuroscience, UCL

📅 2014-2015 📍 London, England

- Developed hardware and software for human behavioral experiments;
- Quantified behavior through timeseries analysis;
- Estimated neural encoding schema via multivariate analysis

🔧 Computer Aided Design, C++, Matlab

SUMMARY

Data / ML Engineer with 10 years of experience building high-throughput data acquisition systems, ML/AI pipelines, and experimental platforms for academic research and industry deployment.

TECH STACK

python C C++ Matlab / Octave git

ETL SQL scikit-learn Tensorflow

Keras OpenCV

Dash Plotly Power BI

DAQ systems CAD

CORE COMPETENCIES

- ETL and Data Engineering
- ML Modeling
- Time series and image analysis
- Computer Vision

LANGUAGES

Portuguese (native) ●●●●●

English ●●●●●

EDUCATION

PhD in Neuroscience

International Neuroscience Doctoral Programme, ITQB-NOVA / Fundação Champalimaud

📅 Mar 2018 – Dec 2024 📍 Lisboa, Portugal

MSc in Biomedical Engineering

Faculdade de Ciências, Universidade de Lisboa

📅 Sep 2013 – May 2016 📍 Lisboa, Portugal

BSc in Biomedical Engineering

Faculdade de Ciências, Universidade de Lisboa

📅 Sep 2010 – Jul 2013 📍 Lisboa, Portugal