



Miguel Fernandes

DATA SCIENTIST WITH THE GOAL TO EMPOWER PEOPLE THROUGH KNOWLEDGE



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Date Of Birth

03 January 1985

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AWARDS

Hans-Grisebach Award 2014

University of Freiburg

Outstanding dissertation in the field of biochemistry and molecular biology

CERTIFICATIONS

Machine Learning with Python

Coursera

April 2020

Databases and SQL for Data Science with Python

Coursera

May 2021

LANGUAGES

Portuguese

Native

English

Fluent

German

Fluent

French

Basic

HOBBIES

Reading, Football, Martial Arts, Biking, Cooking

Collaborator Open Neuroscience:
<https://open-neuroscience.com/>

EXPERIENCED DATA SCIENTIST FASCINATED BY THE ANALYSIS OF COMPLEX DATASETS TO GAIN VALUABLE INSIGHTS AND IMPROVE DECISION-MAKING

- Capable of gaining actionable knowledge and learning new methods.
- Committed team player with strong leadership skills, who thrives on cross-functional teams.
- Natural communicator capable of distilling complex information to crucial points and presenting to broad audiences.

SKILLS

Python

ImageJ/FIJI

Git

Visualization

Computer Vision

Bash

AI

Life sciences

Machine learning

Molecular Biology

PROFESSIONAL EXPERIENCE

DZNE (Deutsches Zentrum für Neurodegenerative Erkrankungen)

Head of the Image and Data Analysis Facility (IDAF)/Data Scientist

(March 2021 - Present)

- **Managing a team of Data Scientists** (implementing the strategy for the team, communication, budget management)
- **Data Science** (artificial Intelligence, deep learning, machine learning, statistical analysis)
- Drug development (image-based profiling with CellProfiler)
- Development of **machine learning algorithms** for predicting drug activity, toxicity, or mechanism of action (high-content screening)
- Software Development for image analysis (**Python, OpenCV**, ImageJ/Fiji macros)
- Consulting and teaching of data analysis and visualization techniques (e.g. Matplotlib, Seaborn)
- Complex data analysis supporting **Research and Development** projects

Max Planck Institute of Neurobiology

Researcher/Data Scientist

(September 2013 - February 2021)

- Analysis and **visualization of complex datasets**
- Employment and development of diverse machine learning tools and **analysis of unstructured datasets** (supervised and unsupervised learning algorithms)
- Establishment and maintenance of advanced imaging technologies
- High-resolution object tracking using **computer vision** (e.g. OpenCV)
- Analysis of 3D/4D biological data (Python, Bash, CMTK, ANTs, and Image J Macro scripts)

EDUCATION

University of Freiburg

PhD Neuroscience, Biology

(April 2009 - August 2013)

- Construction of behavioral setups and **analysis of imaging and time-series data**.
- Development of molecular and transgenic tools for neural circuit dissection
- Confocal imaging of *in vivo* and *in vitro* brain samples
- Development of Immunohistochemistry and Fluorescent *in situ* Hybridization techniques

University of Porto

Licentiate (Masters equivalent) Biology

(September 2003 - September 2008)