Joaquim **Leitão**

Coimbra, Portugal

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| 🎓 Joaquim Leitão | Scopus Profile
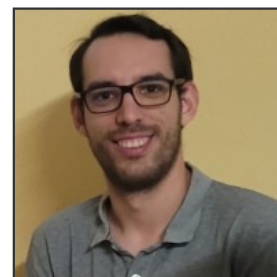
My main goal is to work on data science and machine learning applications to solve business problems.

Experience

NOS   *Porto, Portugal*

Data Scientist   *Sept 2023–Present*

- Working on customer churn project (Sept 2023–Jan 2024)
    - Ensuring periodic deliveries with updated predictions/inference from a trained model
    - Exploratory data analysis and planning aiming to propose pilot project
- Working on project responsible to generate campaign offers to NOS' customer base (Jan 2024–Present)
    - Working towards addressing high technical debt in the project
    - Planning development of new features from the technical and data science point of view
    - Mentoring a junior data scientist in the team, advocating for good software development practices and code consistency
    - Collaborating in the migration of the database of the project to a new system (identifying changes in table fields and types, contributing to specification of data tests to be carried out, discussion of the technical solution to be implemented)

Nokia   *Amadora, Portugal*

Data Scientist   *Nov 2021–Sept 2023*

- Predictive modelling, image processing and classification, task scheduling, natural language processing (NLP)
- Collaboration with researchers from Nokia Bell Labs, receiving solution handover and prototype industrialization

Fundação para a Ciência e Tecnologia   *Coimbra, Portugal*

Scientific Research Grant   *Jun 2017–Jul 2021*

- Uncertainty-aware resource allocation (stochastic programming, mixed-integer linear programming)
- Historical dataset collection (SQL, Python, data cleaning, inspection and normalisation)
- Probabilistic model development, tuning and evaluation (Gaussian processes, Quantile regression, Cross-Validation)
- Merit award: Engineer Lecturers Award, Ordem dos Engenheiros – Região Centro (2019)

Department of Informatics Engineering, University of Coimbra   *Coimbra, Portugal*

                                                                                   Nov 2014–Mar 2015
Invited Assistant Professor
                                                                                   Feb 2017–Aug 2019

- Data Analysis and Transformations (linear and non-linear systems, time-frequency analysis and time series analysis)
- Introduction to Programming using Java

Department of Civil Engineering, University of Coimbra   *Coimbra, Portugal*

Scientific Research Grant   *Feb 2017–May 2017*

- Automate data collection, processing and visualization (Django, PostgreSQL, JavaScript, Data Normalisation, PCA)
- Pattern discovery and evaluation (Hierarchical and K-means clustering, dynamic time warping)

Department of Informatics Engineering, University of Coimbra   *Coimbra, Portugal*

Scientific Research Grant   *Sept 2015–Feb 2016*

- Development and validation of rule-based control systems
- Best Paper Award: 4th Experiment@ International Conference (2017)

Scientific Research Grant   *Aug 2014–Aug 2015*

- Offline and online time-series outlier detection and accommodation (MATLAB, Python)
- Remote laboratory for introduction to programming and control systems courses (Java, Apache Struts 2)
- PyDAQmx-Interface, remote control of three-tank system (Python 2.7, National Instruments 6008, 6009 boards)

Education

University of Coimbra – Faculty of Sciences and Technology   *Coimbra, Portugal*

Ph.D. in Information Science and Technology   *Sep 2016–Jun 2021*

- Thesis: "Adaptive Supervisory Framework for Cyber-Physical Systems"
- **Final Classification: Summa Cum Laude (Highest Praise)**

University of Coimbra – Faculty of Sciences and Technology _Coimbra, Portugal_

M.Sc. in Informatics Engineering _Sep 2014–Jun 2016_

- **Final Classification: 17/20**
- Thesis: "Flood Management in Urban Drainage"
- Relevant Coursework:
    - Artificial Intelligence, Machine Learning, Pattern Recognition
    - Evolutionary Computation, Systems Modelling and Analysis, Experimental Methodologies

University of Coimbra – Faculty of Sciences and Technology _Coimbra, Portugal_

B.Sc. in Informatics Engineering _Sep 2011–Jun 2014_

- **Final Classification: 17/20**
- Merit award: Top 3% students (2012 and 2013)
- Relevant Coursework:
    - Algebra, Mathematical Analysis, Statistics
    - Programming, Databases, Distributed Systems

Complementary Education

Coursera (Online Course)

Natural Language Processing with Probabilistic Models _April 2023_

Coursera (Online Course)

Natural Language Processing with Classification and Vector Spaces _February 2023_

Udemy (Online Course)

Feature Selection for Machine Learning _Jun 2020_

Udemy (Online Course)

Feature Engineering for Machine Learning _Mar 2020_

Skills

Machine Learning

- Regression, Classification, Supervised Learning, Unsupervised Learning, Optimisation, Time series, Mathematical Analysis
- Feature Engineering, Feature Selection, Data Cleansing, Normalisation and Visualization, Hypothesis Testing, Cross-Validation
- SVMs, ANNs, Deep Learning, Gaussian Processes, Random Forests, Capsule Networks, Hierarchical and K-Means Clustering, PCA, LDA

Programming

- Python (Numpy, Scipy, Pandas, Scikit-Learn, TensorFlow, Matplotlib, Seaborn, Statsmodels, Jupyter)
- R, Scala, MATLAB, SQL, Bash, C/C++
- Java, JavaScript, Git, S3, DVC, HTML, CSS

Languages

Languages

- Native Language: Portuguese
- Foreign Language: English
    - Certificate in Advanced English (C1)
    - First Certificate in English (B2)

Event Organisation

2020	**Organisation member**, EDUCON 2020 – IEEE Global Engineering Education Conference	_Porto, Portugal_
2019	**Organisation member**, 5th Experiment@ International Conference	_Madeira, Portugal_
2018	**Organisation member**, 13th APCA International Conference on Automation Control and Soft Computing	_Azores, Portugal_
2017	**Organisation member**, 4th Experiment@ International Conference	_Madeira, Portugal_
2013	**Organisation member**, 2nd Experiment@ International Conference	_Madeira, Portugal_

Scientific Reviewer

2020	**IEEE Access**,
2019	**American Journal of Water Science and Engineering**,
2017	**22nd IberoAmerican Congress on Pattern Recognition**,
2017	**18th International Conference on Engineering Applications of Neural Networks**,