

Joana Sofia Baião Vieira

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PROFESSIONAL EXPERIENCE

Bosch

Remote

Data Scientist

Feb. 2023 - Present

- Currently working on a route optimisation project that aims to ensure efficient transportation to the Stuttgart and Munich offices by creating shuttle bus routes for more than 50k employees.
- Developed prediction models to forecast employee turnover across Bosch locations in Portugal. Implemented the models in Python using scikit-learn and Keras for algorithm development.
- Performed data mining on data from job boards, identifying key skills for targeted positions and analysing skill similarities across diverse roles, using NLP techniques and neural networks.
- Applied time series forecasting to analyse key HR metrics, including headcount, average age, and exit ratio, across all Bosch locations globally. Integrated these models into interactive Python visualisations in Power BI, offering actionable insights for strategic decision-making.
- Automated multiple data processing and anonymization steps for HR Data Analytics teams using Python, achieving a substantial 32-hour reduction in manual workload per month.

CISUC

Coimbra, Portugal

Machine Learning Engineer (Research Fellow)

Nov. 2020 - Oct. 2022

- Developed a Machine Learning algorithm that predicts the course of Multiple Sclerosis in a specific time window using real-world clinical data. The pipeline was implemented in Python using the Scikit Learn and Keras libraries.
- This study achieved a remarkable +100% increase in F1-score compared to the base study
- Explored explainability methods (SHAP, LIME and PDPs) to analyse and clarify the underlying behaviour of the developed ML models, providing valuable insights for improved interpretation by clinicians and researchers.

jeKnowledge (Junior Enterprise)

Coimbra, Portugal

CEO & Innovation Consultant

Apr 2019 - May 2022

- Led a Junior Enterprise with 55 students, developing and supervising 68 [projects](#) (development, data science and design).
- Increased internal and external growth and the quality of the work developed, with a 224.76% surge in business volume, a 70.83% increase in projects, and a 6.83% rise in client feedback.
- Coordinated tech-related events: bluesessions, AI Sunsets, [Shift APPens](#), [.works](#), [jeKnowledge Academy](#), and [Coimbra.blockchain](#).
- Project Manager of [jeK Magazine](#) 1st-4th editions and Porto Blockchain Conference 1st edition.

CFisUC

Coimbra, Portugal

Algorithm Developer (Research Fellow)

July. 2020 - Oct. 2020

- Developed a Python algorithm designed to reconstruct 3D medical images from 2D projections of vascular networks. This algorithm autonomously computes crucial metrics from the generated 3D views, including the number of vessels, their diameter, and the number of bifurcations.

EDUCATION

University of Coimbra

Coimbra, Portugal

Integrated Master's in Biomedical Engineering

Sep. 2017 - Oct. 2022

- Bachelor's degree in Biomedical Engineering and Master's degree in Clinical Informatics and Bioinformatics
- Relevant coursework: Machine Learning, Databases, Medical Imaging, Signal Processing, and Medical informatics,

Specialisation Course in Computational Biology

July 2020 - Oct. 2020

- Relevant coursework: Biostatistics, Genomics, Proteomics, and Modeling

Online certifications:

- [AI for Medicine Specialisation: Medical Diagnosis, Prognosis, and Treatment](#)
- [Natural Language Processing Specialisation](#)
- [Deep Learning Specialisation](#)

Dec. 2023

Mar. 2024

June 2024

SKILLS AND TECHNOLOGIES

Programming Languages: Python, SQL, Matlab, R, Java, HTML/CSS

Frameworks: Pandas, NumPy, Matplotlib, TensorFlow, PyTorch, scikit-learn, Keras, OpenCV, NLTK, Django, Flask

Tools: Git, Docker, Jupyter Notebook, Airflow, Azure, PowerBI

Languages: Portuguese (Native), English (Fluent), German (Basic - Currently learning A1)