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 — *Dec. 2023*
- Natural Language Processing Specialisation — *Mar. 2024*
- Deep Learning Specialisation — *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, AWS, PowerBI
Languages: Portuguese (Native), English (Fluent), German (Basic - Currently learning A1)