

Vasco Rodrigues

DATA SCIENTIST · AI RESEARCHER · MACHINE LEARNING ENGINEER

Porto, Portugal

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Summary

Ambitious Data Scientist with 3+ years of experience developing AI-driven solutions that boost revenue, process efficiency, and customer engagement. Proven success in predictive modeling, MLOps, and automation, including enhancing loans outbound sales by 2.5x and production by 308%, and leading federated model integrations. Skilled in machine learning, data-driven decision-making, and AI product lifecycle, with a passion for solving complex business challenges through analysis and experimentation.

Professional Experience

Universo by Sonae | Bankinter

Porto, Portugal

Junior Data Scientist

February 2024–Present

- Developed an Outbound Propensity XGBoost Model for the Outbound channel, surpassing the previous model within a month through A/B testing. Over subsequent months, this led to a 2.5x increase in request and sale rates, a 308% rise in channel production, and transformed the channel into the most profitable and reliable for selling the product.
- Built an NBA Framework engine for Rebound, enabling the Customer Service Team to generate revenue and simplifying the seamless integration of new products into the NBA engine model.
- Led a Federated Model implementation, successfully reconstructing model variables from internal data, aligning data concepts across companies, and integrating the external model into our architecture. The project culminated in a successful production deployment with A/B testing, ensuring seamless adoption and performance validation.
- Automated and enhanced the Call Center Demand Forecasting Model using Classical Additive Decomposition (Prophet) to handle special events, complex seasonality, and custom trend functions. This automation resulted in significant time savings by eliminating hours of manual work per month.

GECAD - AI Department - NLP

Porto, Portugal

AI Researcher

December 2022–June 2023

- Revamped and enhanced an user-centric chatbot for a footwear company in an international project that accurately identified user's intentions, extracted business domain entities and offer customized product recommendations based on user preferences and gathered information.
- Conducted a thorough examination of the chatbot models and detected instances of over-fitting. Subsequently, implemented a successful restructuring to remove the over-fitting and optimize the performance of the models, resulting in F1-scores of 0.90 and 0.88, in Intent Classification and Named-Entity Recognition tasks.
- Implemented containerization and deployment of the chatbot application using Docker and Kubernetes, resulting in increased user retention and satisfaction by reducing search time by 30% and ensuring seamless user experience.

GECAD - AI Department - NLP

Porto, Portugal

AI Researcher

April 2021–November 2022

- Applied Named-Entity Recognition pre-trained models for Alternative Detection as a baseline results for in-house model, achieving an accuracy of 75-80% on the existing dataset.
- Experimented with multiple Clustering techniques in addition to Dimensionality Reduction techniques to dynamically organize conversations. The experimentation methodology and results were published in Applied Sciences journal (MDPI).

Education

Polytechnic of Porto - School of Engineering (ISEP)

Porto, Portugal

MSc in Computer Software Engineering: Information and Knowledge Systems & BSc

in Computer Software Engineering

September 2017 – October 2022

- Distinguished with Merit Award and 2nd best overall in my MSc.
- **Fields Explored:** Data Science, Knowledge Representation and Reasoning, Statistical Theory and Methods, Machine Learning, Deep Learning, Data Engineering, Data Analysis, DevOPS (Docker, BitBucket Pipelines, Gradle and Jenkins).

Skills

Programming	Python (Pandas, NumPy, Scikit-learn, Tensorflow, PySpark, Matplotlib, Transformers), SQL(MSSQL), NoSQL(MongoDB).
Miscellaneous	Git, Docker, Kubernetes, Jenkins, SCRUM
Soft Skills	Time Management, Teamwork, Problem-solving, Quick-learner, Critical Thinking, Organization, Communication.

Languages

Portuguese	Native Proficiency
English	Professional Proficiency