

FERNANDO NUNO C. B. VIEIRA

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ABOUT ME

Enthusiastic and motivated AI Engineer with a solid foundation in machine learning, data analysis, and software development. Recently completed a 9-week intensive course at **IronHack**, where I worked on projects involving natural language processing, computer vision, and predictive modeling. Adept at leveraging cutting-edge AI technologies and algorithms to solve complex problems. A quick learner and effective communicator, eager to apply my skills and passion for AI to drive innovation and success.

SKILLS

- **Machine Learning & AI Technologies:**
 - **Machine Learning:** Supervised/unsupervised learning, Naive Bayes, model selection
 - **Deep Learning:** BERT, LSTM, Transformers, CNN, RNN
 - **Generative AI:** Text generation, summarization, creative content (ChatGPT)
 - **Model Optimization:** QLoRA, PEFT
- **Natural Language Processing (NLP):** NER, coreference resolution, semantic role labeling, fine-tuning for conversational AI and text applications
- **Retrieval-Augmented Generation (RAG):** Advanced RAG systems, multimodal RAG
- **Data Analysis & Evaluation:** Preprocessing, visualization, statistical analysis, BLEU, ROUGE, F1 scores
- **Programming & Development:**
 - **Languages:** Python, SQL
 - **Frameworks:** TensorFlow, Keras, PyTorch, Scikit-learn
 - **Software Development:** Version control (Git), debugging, testing
- **Computer Vision:** Image recognition, object detection, OpenCV
- **Databases & Frameworks:** SQL, ChromaDB, Pinecone, LangChain (including LangChain agents)
- **Cloud Platforms:** AWS, Google Cloud, Azure
- **Soft Skills: Problem-Solving:** Critical thinking, algorithm design; **Communication:** Technical writing, presenting complex concepts; **Team Collaboration:** Agile methodologies, project management

PROJECTS

Deep Learning - Image Classification with CNN

- An image classification model was developed using Convolutional Neural Networks (CNN). The model successfully categorizes images into predefined classes with high accuracy. Performance was notably enhanced through data augmentation techniques and optimization of hyperparameters.
- Technologies: Python, TensorFlow, Keras, OpenCV

NLP Business Case: Automated Customer Reviews

- Developed a highly accurate CNN-based image classification model, enhancing performance through data augmentation and hyperparameter optimization.
- Technologies: Python, Scikit-learn, BERT, Transformers

Business Case: Multimodal AI ChatBot for YouTube Video QA

- A sophisticated AI chatbot was developed to answer questions about YouTube videos. The chatbot analyzes both video content and associated text, combining visual and textual information. It successfully integrates video analysis with natural language processing to provide accurate, context-aware responses to user queries about the videos.
- Technologies: Python, TensorFlow, OpenCV, LangChain, ChatGPT

EDUCATION

IronHack

- **Program:** Intensive AI Engineering Bootcamp (9 weeks)
- **Key Highlights:** Experienced AI specialist proficient in machine learning, deep learning, and NLP. Skilled in Python and major AI frameworks. Developed diverse projects including image classification, sentiment analysis, and multimodal chatbots. Specialized in ChatGPT implementations and RAG systems. Strong collaborative and project management abilities.

PROFESSIONAL EXPERIENCE

Airport Operations Management

Faro Airport

1995 – 2021

Led airport operations, overseeing flight coordination, ground handling, and customer services. Implemented procedural enhancements and managed operational crises, significantly improving efficiency and safety.