Daniel Ferreira

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Summary

As an AI specialist, I am currently pursuing a Master's in Advanced Computer Science with a strong foundation in machine learning. I am proficient in Python, PyTorch, and Git, and have hands-on experience building RAG systems and fine-tuning transformers. I am eager to apply these skills to solve complex problems within an innovative AI team.

Education

University of Leeds **Expected December 2025**
Master of Science in Advanced Computer Science *Predicted Distinction*

Relevant Coursework: Data Science, Advanced Software Engineering, Deep Learning, Cloud Computing

St. Francis Institute of Technology **June 2024**
Bachelor of Engineering in Computer Engineering *CGPI: 8.59/10*

Relevant Coursework: Data Structures and Algorithms, Operating Systems, Machine Learning

Skills

Languages: Python, C++, Typescript, HTML, Tailwind
Frameworks & Packages: Langchain, PyTorch, Gradio, Flask, Chainlit, Streamlit, Django
Databases: SQL (MySQL, SQLite, PostgreSQL), NoSQL (Firestore), Vector (Milvus, Chroma)
Developer tools: Git, GitHub, Insomnia, Docker, Firebase, DigitalOcean

Projects

RAG-Powered Competence Standards Assistant | Link

- Developed a **RAG** chatbot by leveraging **Python** and **LangChain** to connect large language models (LLMs) with external domain-specific documents
- Engineered a high-performance vector-based retrieval pipeline by integrating the **Milvus vector database** with the **Qwen3-8B embedding model via API** for fast and accurate search
- Implemented **PostgreSQL** for secure user authentication and conversation storage, enhancing search efficiency and data security
- Applied **Unstructured** chunking strategy for document preprocessing and **Chainlit** for an interactive frontend, delivering a scalable, user-friendly interface for real-time competence queries with session persistence

Automated Machine Learning Platform | Link

- Developed an intuitive AutoML platform to streamline ML workflows, automating data handling, task detection, and interpretation by integrating LazyPredict for comparison of **more than 20 algorithms**
- Designed a highly responsive **Gradio** interface with full **Model Context Protocol (MCP)** support for seamless human and AI agent interaction
- Deployed the platform on **Hugging Face Spaces**, enabling public access and validating the solution in a real-world environment

Ai-Powered Academic Research Assistant | Link

- **Collaborated with a team of 3** to develop an AI research agent automating data retrieval, significantly boosting computer science research productivity
- **Fine-tuned a LongT5** transformer model for summarisation using a dataset of **1,000** computer science research papers
- Built an **end-to-end data processing pipeline** with document scraping and NLP techniques, enabling scalable retrieval and summarisation of academic content

Certifications

Microsoft Certified: Azure AI Fundamentals Certificate | ***Link*** **May 2025**
Microsoft

Meta Back-End Developer Professional Certificate | ***Link*** **Dec 2023**
Coursera