

Federico Pardo García

PhD Candidate, AI Research Engineer

EU Citizen | Relocation Ready | Immediate Availability

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EDUCATION

University of Murcia

PhD in Computer Science and AI

Murcia, Spain

May 2023 – Present

- Thesis: Enriched Feedback of Classroom Dynamics Using AI. 5 first-author publications in IEEE Access, Applied Sciences, and IEEE conferences.

University of Murcia

M.Sc. in Big Data and Artificial Intelligence (GPA: 8.7/10)

Murcia, Spain

2020 – 2021

University of Murcia

B.Sc. in Computer Science, Specialization in AI

Murcia, Spain

2016 – 2020

EXPERIENCE

AI Research Engineer

University of Murcia

May 2023 – Present

Murcia, Spain

- Designed decoupled microservices architecture (Python, FastAPI, Docker, Celery) for multimodal AI inference and analysis, enabling production-ready deployment on local and cloud infrastructure.
- Built end-to-end audio analysis pipeline integrating ASR (Whisper), speaker diarization, paralinguistic feature extraction, and semantic embeddings (BERT, vector search via FAISS).
- Implemented Explainable AI (XAI) techniques using SHAP values to interpret model predictions on fine-tuned BERT architectures, ensuring transparent decision-making in black-box models.
- Developed robust ETL pipelines (Python/C++) for processing raw classroom audio, handling data cleaning, normalization, and feature engineering at scale across heterogeneous data sources.
- Published systematic review and 4 empirical papers on multimodal AI for education, demonstrating domain adaptation techniques and explainable fusion of text and audio modalities.

Cloud Technical Support Specialist (GCP)

Webhelp (Google Cloud Project)

Aug. 2022 – Apr. 2023

Barcelona, Spain

- Provided L2 engineering support for enterprise clients on Google Cloud Platform, resolving critical incidents in Compute Engine, VPC Networking, IAM, and Kubernetes (GKE).
- Debugged complex production issues in distributed Linux environments, collaborating with SRE teams to identify root causes in cloud infrastructure and containerized systems.

Data Scientist and Machine Learning Engineer

CENTIC (Technological Center)

June 2021 – Aug. 2022

Murcia, Spain

- Deployed real-time Convolutional Neural Network (CNN) for industrial defect detection, achieving 98% accuracy with custom image augmentation and sub-100ms latency on embedded hardware.
- Implemented LSTM-based NLP model for linguistic complexity evaluation, optimizing architecture for resource-constrained deployment and production inference.
- Managed end-to-end ETL pipelines for tabular, image, and audio data across multiple R&D initiatives, from data acquisition through model deployment.

TECHNICAL SKILLS

Machine Learning and AI: PyTorch, TensorFlow, Hugging Face Transformers, SHAP, FAISS, LLMs (Llama, Mistral), Whisper, speaker diarization, BERT fine-tuning.

Deep Learning: CNNs, RNNs (LSTM), attention mechanisms, multimodal fusion, domain adaptation.

Systems and Infrastructure: Python (Expert), C++, Docker, Kubernetes, FastAPI, Celery, GCP (Compute Engine, GKE, Cloud Storage).

Data Engineering: ETL pipelines, data cleaning and normalization, signal processing (Librosa), feature engineering at scale.

Programming Languages: Python, C++, SQL, Bash, JavaScript.

Languages: Spanish (Native), English (C1 Advanced), German (Elementary).