






Müsel Emmanuel Tabares Pardo

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About


Asking for an opportunity to show my talent in a Master’s students Internship at Mistral. Passionate about LLMs and learning.

Experience

- 9/2023 – 01/2024

 **Machine Learning Engineer** Moodme | United States


Designed and deployed real time facial emotion recognition systems using deep learning computer vision techniques. Implemented a Graph Auto-Encoder (GAE) to learn latent representations of facial landmarks for a Unity 3D Face SDK, enabling identity preserving expression synthesis and emotion classification.
- 02/2023 – 08/2023

 **Data Analyst** CEMEX | Monterrey, Mexico


Developed predictive and statistical forecasting models to assess user behavior trends and adoption metrics for CEMEXGO. Use of Snowflake and SQL for data retrieval; Built interactive Power BI dashboards to support Product Management decisions.

Education


- 09/2024 – Current

 **Erasmus Mundus Master in Advanced Machine Learning and Optimisation Systems (EMSSE)**

Universitat Politècnica de Catalunya | Barcelona, Spain (09/2024–01/2025)
Universiteti Politeknik i Tiranës | Tirana, Albania (03/2025–06/2025)
Université de technologie de Compiègne | Compiègne, France (05/2025–Current)
- 08/2023 – 12/2024

 **Specialization in Advanced Artificial Intelligence Applied to Data Science**



Monterrey Institute of Technology and Higher Education | Guadalajara, Mexico
- 08/2021 – 06/2024



 **B.S. in Computer Science and Technology**



Monterrey Institute of Technology and Higher Education | Monterrey, Mexico



Projects



- Instruction Tuning (SFT + QLoRA)



 End-to-end instruction-tuning workflow with prompt templating, tokenization, and QLoRA adapters; reproducible configs, logged runs, checkpoints, and artifacts; containerized runner. 
- Preference Optimization (DPO/ORPO)




















 Post-training with pairwise preference data; trained/evaluated DPO/ORPO adapters, added guardrails/refusals, and compared pre/post behavior on task-specific evals. 
- LLM Evaluation Harness & Leaderboard

 Reproducible offline evals across reasoning/knowledge/safety with deterministic prompts/seeds; compact leaderboard and model cards; contamination checks and error analysis. 
- High Performance Serving(vLLM+ TensorRT)




 Production-style serving optimized for throughput/latency with quantization and observability; streaming tokens, autoscaling, tracing, and A/B backend switching behind a clean API. 
- Multi-Node Fine-Tuning on Slurm

 Distributed fine-tuning on HPC with checkpointing, preemption safety, NCCL tuning, shard-aware dataloading, and artifact sync; “zero to cluster” guide. 
- Telemetry RAG YANG/Openconfig






 End-to-end RAG indexing lab telemetry docs (Markdown/YANG/JSON) into Qdrant; context-only prompting via Ollama/OpenAI; reproducible Docker setup and CLI for index/ask. 

Medical LV Segmentation	 U-Net for left-ventricle segmentation on Stanford EchoNet-Dynamic; compared pixel-wise masks vs. landmark detection; used Dice score and morphology post-processing. 
ML for Activity Recognition	 Evaluated 18 ML algorithms with grid search on accelerometer data to classify activity levels in older adults; validated via CV and significance tests. 
Vision Hydrological Forecasting	 Deep CNN pipeline predicting river stage from imagery; EfficientNet transfer learning and multi-modal inputs (visual + hydrological) for accuracy gains. 
LLM + RAG for Metaheuristics	 Automated framework using RAG + LLMs to generate and refine metaheuristics for black-box optimisation; integrated Qwen2.5-coder, ChromaDB, and Optuna. 
ML Obesity Estimation	 End-to-end pipeline classification on UCI obesity dataset; DR (PCA, t-SNE), mutual information, 31 models; best: XGBoost (96%). 
Leukocyte CNN + LIME	 CNN to classify leukocytes (cancerous vs non-cancerous) with LIME explanations to highlight decision-driving regions.
Fine-tuned GPT-2 Chatbot	 Fine-tuned GPT-2 on WhatsApp chats; regex parsing to HF Datasets; trained and deployed interactive chatbot pipeline. 
NLP Web App	 Real-time text emotion classifier with logging and analytics; built using Streamlit and standard NLP preprocessing. 
Advanced Statistical Learning	 From-scratch Monte Carlo, Bootstrap, PCA, multiple regression (Ridge, Lasso), and classic classifiers; annotated theory notes applied to real datasets. 
NLP Project Collection	 Curated models: DistilBERT sentiment (PyTorch), Levenshtein spell checker, and Keras RNN text generator with temperature control. 


Skills

LLM Training & Alignment	 PyTorch; Hugging Face Transformers/PEFT/TRL; tokenization; SFT, LoRA/QLoRA, DPO; multilingual (EN/FR).
Serving & MLOps	 vLLM, TGI; FastAPI; llama.cpp/GGUF; Git, Linux, Docker, Kubernetes; experiment tracking (W&B/MLflow); CI/CD; PyTorch Profiler.
Data, RAG & Evaluation	 Dataset curation (cleaning/dedup/PII); vector search (FAISS/Qdrant) & rerankers; prompt/retrieval pipelines; lm-evaluation-harness; A/B evals; safety/robustness.

Languages

Mother Tongue	 Spanish
English	 Listening C2 Reading C2 Writing C1 Spoken Production C1 Spoken Interaction C1
French	 Listening B2 Reading B2 Writing B1 Spoken Production B1 Spoken Interaction B1
German	 Listening A2 Reading A2 Writing A1 Spoken Production A1 Spoken Interaction A1
Albanian	 Listening A2 Reading A2 Writing A1 Spoken Production A1 Spoken Interaction A1

Volunteering

08/2018 – 07/2020	 Leader, ProV Coordinated a social aid organisation to support vulnerable communities.
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