






Müsel Emmanuel Tabares Pardo

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MEXICAN | DOB: 05/08/2002

About

Seeking an opportunity for a Master’s student internship at Mistral. Strong desire to show what I am capable of. Passionate about learning and solving problems. Obsessed with LLMs and mathematics.

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 (Mark-down/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 meta-heuristics 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. 
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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