NILS DURAN

CONTACT

nilsdula@gmail.com
+34 660 054 068
Github (nilsduran)
LinkedIn (nils-duran2004)

SKILLS

Programming Languages
Python
SQL
R
C/C++
MATLAB, Java, C#, VBA, Rust, Prolog...

Technologies & other skills
Git
Linux
OOP and Software Architecture
numpy, scikit-learn & other python libraries
PowerBI, Tableau
Spark
LangChain / LangGraph
PostgreSQL
OpenMP, MPI, CUDA
Pytorch, TensorFlow

LANGUAGES

Catalan	Native
Spanish	Bilingual
English	C2
German	C1

INTRODUCTION

Hey there, I'm Nils, a 21-year-old student in my fourth year of a bachelor's degree in Artificial Intelligence at UPC. Outside of my studies, I enjoy reading, playing tennis, climbing, and chess.

EDUCATION

2022-2026 **Bachelor's in Artificial Intelligence**
Universitat Politècnica de Catalunya

2016-2022 **ESO and Batxillerat (High School)**
Escola Frederic Mistral-Tècnic Eulàlia

COLLABORATIONS WITH COMPANIES

Summer 2024 **Bac 10**

- Migrated legacy software functionality to a modern application with an improved GUI, focusing on UX.
- Automated tax calculations to meet client-specific requirements and deadlines.
- Improved system efficiency and maintainability by making the software architecture more robust.

Spring 2025 **Telefónica Innovación Digital**

- Researched the impact of diversity on AI agents performance with guidance from Telefónica.
- Improved Gemini 2.5 Flash performance by over **3%** (87% → 90%) on the MedQA benchmark by using diverse agents with LangGraph.

PROJECTS

Predicting Chess Puzzle Elo Rating

- Predicted the Elo rating difficulty of a chess position leveraging advanced machine learning techniques.
- Took advantage of existing game engines like Stockfish, Leela and Maia to improve performance.

Image Classification with MareNostrum 5

- Trained several Transformer based models on the full MAMe dataset (>200 GB) and achieved 0.75 f1-score
- Used the MareNostrum V supercomputer and slurm to train the models on a very large dataset.

Cirrhosis Patient Status Classification

- Worked with health data to classify the status of patients with cirrhosis.
- I trained several models including KNN, SVM, Decision Tree and Explainable Boosting Machine.

Solving Atari Games with DQN

- Worked with the gymnasium library to create environments and implement several Reinforcement Learning algorithms such as DQN, DDPG, TD3, SAC, PPO.