

Dhia Garbaya

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Profile

Open to research opportunities starting in Fall 2026.

Experience

AI scientist intern || Mistral AI

Apr'26 - •

- Teams: Formal reasoning
- Supervisor & Tutor: Albert Jiang & Michal Valko
- Focus: RL for long horizon tasks, Credit assignment

Visiting student || EPFL

Feb'25 - Jan'26

- Teams: MLO lab & Swiss AI Initiative
- Supervisor: Prof. Martin Jaggi
- Focus: pre-training Transformers (4k GPUs), distillation, reasoning models

Research intern || TII (UAE)

Jul'24 - Jan'25

- Teams: AI theory & Falcon pre-training
- Supervisor: Dr. MEA Seddik
- Focus: distillation, pre-training (5k GPUs), scalable optimization algos, param-free learning

Education

École Normale Supérieure (P-S), MVA: M2 research [Math, Vision, Learning]

2025 - 2026

- **Coursework**: Convex optimization · Reinforcement learning · Optimal transport · Bayesian ML · Geometric DL · Graphs in ML · LLMs for code and proof · Robotics...

École des Ponts et Chaussées (IP Paris), MEng [Applied Math, ML]

2022 - 2025

- **Coursework**: Machine learning (JAX) · Optimization · Operations research (Julia) · Advanced algorithmics (C++) · Vision · Stochastic processes · Statistical physics · PDEs · Game theory...

Esprit Prépa, Tunis, Prépa [Math, Physics]

2020 - 2022

- **Coursework**: Algebra/ Topology/ Analysis/ Probability/ Theoretical Physics/ Basic Algorithms...

Publications

Leanstral* : Proof Abundance for All (formal theorem-proving agent)

Mistral AI - 2026

Blogpost · Paper

Terminator : Early Stopping in CoT Reasoning · ICLR/ICML workshops & NeurIPS'26

UT Austin & EPFL & ENS P-S & Télécom Paris - 2026

Website

FOG Architectures* : Toward Pure FP8 LLM Training at Scale · NeurIPS'25

EPFL & ETH Zurich - 2025

arXiv · Openreview

Apertus* : Democratizing Open, Compliant, and Multilingual LLMs · ACL'26

Swiss AI team - 2025

arXiv

Falcon3 family of Open Models* : Showcasing transfer learning efficiency

Falcon LLM team - 2024

Blogpost

* Joint first-authorship

Coding skills

Languages: Python, C++, Julia, R

Tools, frameworks: Pytorch, JAX, Megatron-LM, vLLM, HF, GIT, AWS, Slurm, Run:ai

Some academic projects

Solving PDEs with PINNs

[dhia680/pinns-24]

- Studied Physics-Informed-Neural-Networks for solving Helmholtz PDEs [w/ Airbus].

Operations Research

- Optimizing an offshore wind electrical network for RTE, FR

Deep RL for optimizing traffic using autonomous vehicles

[.../HighwayEnv]

- Inspired from CIRCLES project. Studied phantom traffic jam and drivers behaviour.

RL for push recovery of a wheeled robot

- PPO, Reward shaping, curriculum, inductive bias · [Robotics (Willow, Inria)]

Posterior Estimation and Importance Sampling

[dhia680/NPE-IS]

- Studying neural PE and IS for gravitational waves · [Bayesian ML (Mines Paris)]

Distinctions

- **French government excellence scholarship:** Among 7 national holders of this scholarship, 2022-2026
- **Valedictorian** in both high school and Prépa
- **Large research grant:** funded by the Swiss AI Initiative - led by professors D. Alistarh, M. Jaggi, T. Hoeffler.

Languages

- **Arabic** (Native) · **English** (Fluent) · **French:** (Fluent) · **German:** (Intermediate)

Volunteering

- **Reviewer** at ICLR'26, MenaML'25.