Timofei Amosov

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Artificial Intelligence undergraduate at MBZUAI, Abu Dhabi, on full scholarship, after a first year of a mathematics and computer science double major at Université Paris Cité. **Bronze medallist at the International Olympiad in Artificial Intelligence 2025**, **national champion of the French AI Olympiad 2025** and coach of the French national team. I build machine learning and GPU computing projects end to end, each one measured against an independent reference.

Education

Mohamed bin Zayed University of Artificial Intelligence, Abu Dhabi Aug. 2026 – present
BSc Artificial Intelligence, Engineering track, full scholarship
Admitted on full scholarship to one of the first undergraduate cohorts of MBZUAI, the world's first university dedicated to artificial intelligence.

Université Paris Cité Sept. 2025 – July 2026
BSc Mathematics and Computer Science (double major), first year
Ranked first in the mathematics cohort (1st in linear algebra).

Lycée Louis-le-Grand, Paris Sept. 2022 – June 2025
French Baccalauréat, highest honours (mention Très Bien)
Majors: mathematics, physics-chemistry, computer science (NSI); advanced mathematics option.

Awards and distinctions

- **Bronze medal, International Olympiad in Artificial Intelligence 2025.** Represented France in Beijing.
- **National champion, French AI Olympiad 2025.** First overall, after national qualification rounds and a selective training camp.
- **3rd place, French inter-university programming contest 2026.** Team algorithmic problem solving under time pressure.
- **4th nationally, Concours Général (Russian) 2025.**

Projects

Signs: Real-time French Sign Language alphabet trainer Personal project
Python · scikit-learn · ONNX · MediaPipe · React · Django • *github.com/Timmor77/Signs*

- Built a browser trainer for French Sign Language: a 147 kB ONNX model classifies MediaPipe hand landmarks at ≈30 fps, fully on-device.
- Showed that hand-crafted geometric features help on a known signer but cost 4+ points on a new one; raw coordinates generalise best.
- Reached 90.2% top-1 accuracy on an unseen signer; verified scikit-learn-to-ONNX parity and wrote 48 tests.

FractalFlow: Deep-zoom GPU fractal renderer Personal project

TypeScript · WebGPU (WGSL) · WebGL2 (GLSL) · CUDA C · Python • *github.com/Timmor77/FractalFlow*

- Reached 10^{-28} zoom depth in the browser with perturbation theory and double-double precision (float64 stops at 10^{-14}).
- Implemented on CUDA, WebGPU and WebGL2, with a 100% pixel match against an mpmath arbitrary-precision reference.
- Benchmarked ≈922 GIter/s on an RTX 3060 Ti, ≈40,000× faster than a vectorised NumPy baseline.

Caraml: Browser IDE for OCaml University project

TypeScript · React · Monaco · Node/Express · SQLite • *github.com/LucideAI/Caraml*

- Wrote an OCaml interpreter from scratch in TypeScript (lexer, parser, evaluator) that runs entirely in the browser.
- Built a runtime memory visualiser showing environments, stack frames and heap objects.
- Shipped accounts, project sharing and native OCaml tooling, with Vitest and a Linux/Windows CI matrix.

EV-Pulse: Day-ahead EV charging load forecasting Personal project

Python · LightGBM · FastAPI · Streamlit · Docker • *github.com/Timmor77/EV-Pulse*

- Built a day-ahead forecaster combining a recent-profile baseline with a LightGBM residual model.
- Reduced MAE by 29.8% at Caltech and 14.7% across all sites on an untouched 60-day holdout.
- Deployed with FastAPI, Streamlit and Docker; tested with pytest and GitHub Actions CI.

Experience

Coach of the French national team, International Olympiad in AI 2025 – present

National selection and training (IOAI)

Design the qualification and final assessments used to select the national team, teach machine learning, computer vision and NLP at the national training camp, and mentor the selected students through to the IOAI alongside the French delegation.

Skills

Artificial intelligence	Machine learning, deep learning, computer vision, NLP and language models, gesture recognition, time-series forecasting; feature engineering, model evaluation and validation design, reproducible pipelines.
Numerical & GPU	GPU programming (CUDA, WebGPU/WGSL, WebGL2/GLSL), perturbation methods, extended-precision arithmetic (double-double), benchmarking methodology.
Programming	Python (PyTorch, scikit-learn, LightGBM, NumPy, pandas), Java, C, CUDA C, Assembly, OCaml, SQL.
Tools	Git, Linux, Docker, GitHub Actions, Jupyter, pytest, Vitest, FastAPI, Django, React, ONNX Runtime, Streamlit.

Languages

French: bilingual · Russian: native · English: professional working proficiency