

ACQUADRO PATRIZIO

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Robot Learning / ML Engineer — multimodal transformers (VLA/LLMs), sim-to-real, real-time deployment

Work authorization: J-1 Academic Training (Purdue-sponsored), Jun 2026 – Mar 2027

Skills

Core: Python, C, Java, PyTorch, HF Transformers, MuJoCo, Isaac Sim (basic), LangChain, Numpy, Pandas, SQL, R

Tools/MLOps: Git, Linux, Docker, Apptainer, DeepSpeed, Weights & Biases, pytest, LaTeX

Languages: Italian (native), English (fluent; IELTS 7.5), French (basic; 2 years, 6 hours/week)

Work & Research Experience

Visiting Student Researcher – Purdue University (E-Lab) Jan 2026 – Present

- Integrated a decoder-only transformer policy on the IHMC Alex humanoid for real-time validation.
- Owned the end-to-end experimentation pipeline, optimizing for reproducibility, tracking, and rapid ablations.
- Built a contact-rich MuJoCo benchmark for LEGO bimanual assembly, to quantify robustness and failure modes.

Generative AI Researcher – Politecnico di Milano Feb 2025 – Sep 2025

- Improved grounding for repo-level codegen via retrieval/reranking ablations (BM25, CodeBERT, RRF, multi-hop).
- Curated a 7.6k-snippet KB (PySCF, SEED-Emulator), standardizing chunking and filtering for coverage.
- Optimized iteration speed and GPU cost with 4-bit NF4, caching, and resume/OOM-safe runs for large sweeps.

Applied ML Researcher – University of Milano-Bicocca Mar 2024 – Jun 2024

- Designed LangChain RAG with pairwise re-ranking to improve clinical-trial ranking and reduce noise.
- Built a UMLS-based KB for grounding/normalization and benchmarked OSS vs GPT API on accuracy/latency/cost.

AI Research Intern (Quantum ML) – Exprivia S.p.A. Apr 2024 – Jun 2024

- Evaluated QML feasibility for Heston modeling by benchmarking PINN/WGAN baselines against a qWGAN in Qiskit.

Selected Projects & Entrepreneurship

STM32N6 NPU On-Device Transformer May 2025 – Jul 2025

Ported an INT8 transformer to an NPU built for CNNs within memory/latency limits and validated with ST engineers.

Code Agent System & Mini-Transformer Benchmark May 2025 – Jul 2025

Built a LangChain agent with 5 Pydantic tools and multi-LLM support, and co-designed a 15-task repo benchmark.

BiellaInFesta, Instagram Social Page – Founder Jul 2022 – Present

Grew a local events page to 8.9k followers and 550k/mo views, and leading a 4+ person team.

Adunet WebApp – Founder Apr 2025 – May 2025

Shipped a Next.js festival map app, and leading a 10-person promo team serving 8–10k daily visitors.

CubeWar Minecraft Server – Co-founder May 2018 – Jul 2019 (sold)

Scaled a Java Minecraft server to 70–90 daily players (300 peak), and running ops in a 4-person team.

Education

Purdue University – Visiting Exchange Student Aug 2025 – May 2026

Selected on merit (1 of 2) from a 674-student first-year MSc CS cohort (PoliMi).

Politecnico di Milano – M.S. Computer Science & Engineering (AI) Sep 2024 – Present

GPA 28.2/30 (Top 8% - Polimi Open Data); Honors (30L/30): LLMs (PhD course), SWE II.

University of Milano-Bicocca – M.S. AI for Science and Technology Sep 2024 – Present

Top grades (30/30): Advanced AI/ML/DL, Embedded Systems.

University of Pavia – B.S. Artificial Intelligence Sep 2021 – Oct 2024

Degree grade: 110/110; First inter-university B.S. in AI in Italy.

University Scholarships: Merit-based, income-qualified (awarded 2023–2024–2025, €5,500/year)

Extracurricular Activities

Interests: Swimming (3 years competitive), rock climbing (regional competitions), philosophy, and fantasy literature.

JCI Biella: Led social/communication promotion to support the launch of 4 events, boosting visibility and attendance.

Italian Red Cross: Certified volunteer for emergency response, incident support, and patient assistance.