

Francesco Rausa

M.Sc. Artificial Intelligence & Machine Learning — Politecnico di Milano

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Profile

Computer engineer in the final year of an M.Sc. at Politecnico di Milano, focused on machine learning and the full pipeline around it — data, model design, training, evaluation and deployment. Hands-on experience with deep learning for medical imaging and with large object-oriented systems, plus a self-managed homelab where I run my own infrastructure end to end. Looking for ML/AI engineering work, open to research and to relocating.

Education

M.Sc. Computer Science and Engineering — AI track (T2I)

Sep 2025 – present

Politecnico di Milano — Milan, Italy

- Machine learning, computer vision, deep learning, advanced software architectures, big data.
- Selected grades: Machine Learning 29/30 ▪ Numerical Analysis for ML 29/30 ▪ Systems and Methods for Big and Unstructured Data 30/30.

B.Sc. Computer Engineering

Sep 2022 – Jul 2025

Politecnico di Milano — Milan, Italy

- Algorithms and data structures, software engineering, computer systems, probability.
- Selected grades: Software Engineering Project 30/30 *cum laude* ▪ Probability and Statistics 30/30 ▪ Electronics 30/30.

Projects

FCOS Pneumonia Detection

Python, PyTorch, Computer Vision

- Trained an anchor-free FCOS detector to localise pneumonia in chest X-ray images.
- Built the medical-imaging preprocessing pipeline and tuned the loss for severe class imbalance.

Distributed Board-Game Engine

Java, OOP, Design Patterns, MVC, Sockets/RMI

- B.Sc. final project (30/30 *cum laude*): a full distributed multiplayer game.
- MVC core with Factory and Observer patterns, socket and RMI networking, graphical client.

Polimi API

C, Make

- Algorithms and Principles of Computer Science project: a command-driven engine over stdin built to strict time and memory limits, with custom data structures and no external libraries.

Personal portfolio & “Claude mode”

Next.js, React, TypeScript

- Designed and built francescorausa.dev; added a parallel AI-assisted “Claude mode” as a deliberate exercise in learning web development, with a study note for every concept touched.

Infrastructure & Self-Hosting

Self-managed homelab: Proxmox virtualisation and a TrueNAS storage server, with self-hosted services deployed via Docker Compose on Arch Linux. Comfortable owning a Linux system end to end — networking, reverse proxy, backups and monitoring.

Technical Skills

Languages Python ▪ C ▪ Java ▪ SQL ▪ Bash *learning:* TypeScript / JavaScript

ML / AI PyTorch ▪ NumPy ▪ computer vision ▪ deep learning ▪ TensorFlow ▪ Hugging Face

Backend & Data FastAPI ▪ SQL / PostgreSQL ▪ MongoDB ▪ Redis ▪ Cassandra

Systems & Tooling Linux (Arch) ▪ Docker & Compose ▪ Proxmox ▪ TrueNAS ▪ Git ▪ LaTeX

Languages

English — C1 Advanced (Cambridge C1 Advanced certificate) ▪ Italian — native

Interests

Piano and classical guitar; electronics and robotics tinkering — e.g. a soil-moisture-triggered plant-watering system.