

Edoardo Pierluigi Leali

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Lugano / Brescia — Italian & EU citizen

github.com/edolea

Interested in: HPC ML Graph Deep Learning AI Acceleration

PROFILE

Enthusiastic MSc student in High-Performance Computing (EUMaster4HPC double degree) with a solid Computer Science foundation and hands-on experience in parallel programming and performance optimization. Also passionate about machine learning—especially deep learning and graph deep learning (GNNs/STGNNs)—and applying them to real datasets. Seeking an internship in Lugano where I can contribute to C/C++/Python codebases, accelerate workloads (OpenMP/MPI/CUDA), and build reliable, well-tested ML/HPC software.

EDUCATION

- **Politecnico di Milano & Università della Svizzera italiana (USI)** Milan, IT & Lugano, CH
MSc in High-Performance Computing (EUMaster4HPC Double Degree) 2024 – 2026 (expected)
 - **Selected coursework:** Parallel Computing; Numerical Analysis for PDEs; Photonic Computing; High-Performance Data Analytics
 - **Highlights:** Member of the pan-European EUMaster4HPC programme; mini-projects on MPI/OpenMP, GPU memory hierarchies, and performance modeling
- **Politecnico di Milano** Milan, IT
B.Sc. in Computer Science Engineering 2019 – 2024

SELECTED PROJECTS

- **Spatiotemporal GNNs for Wind Speed Forecasting (MeteoSwiss)** Course project
Graph Deep Learning 2025
 - **Goal:** Explore STGNNs to improve numerical weather forecasts by predicting wind speed across Switzerland on MeteoSwiss data
 - **Approach:** Station graph construction; temporal modeling (RNN/temporal convs) + message passing; MLflow logging; config-driven training
 - **Tech:** Python, PyTorch, PyTorch Geometric, MLflow
 - **Repo:** Fork with training scripts and configs: GraphDL-MeteoSwiss
- **AI Factory Benchmarking on MeluXina** Team Challenge (EUMaster4HPC)
HPC/AI Systems 2025
 - **What:** Develop tools to deploy/benchmark AI services on the MeluXina supercomputer with SLURM orchestration
 - **How:** Server/Client/Monitor modules; recipe-based launchers; Prometheus metrics export; JSON results
 - **Tech:** Python, SLURM, Prometheus; packaging and CLI
 - **Repo:** Team3.EUMASTER4HPC
- **ONN-Based Chromatic Dispersion Pre-Compensation (Simulation)** Course project
Photonic Computing 2024
 - **What:** End-to-end MATLAB simulation exploring optical neural networks for chromatic-dispersion pre-compensation in fiber links
 - **Tech:** MATLAB; custom training/visualization scripts
 - **Repo:** ONN
- **Java Game** Bachelor project
Software Engineering 2023
 - **What:** Designed and implemented a small 2D game in Java as a team; object-oriented architecture, unit tests, and CI basics
 - **Tech:** Java, JUnit, Java-FX

ACADEMIC ACTIVITIES

- **High Performance Computing for Specialised Applications Summer School** Ankara, TR
Participant Jul. 2025
- **Passion-in-Action** Politecnico di Milano
Version Control with Git; High-performance Data & Graph Analytics 2022
- **EUMaster4HPC workshops** online — Luxembourg, LU
Mastering MATLAB: HPC Integration
Scaling CUDA C++ to Multiple Nodes
Intro to FPGA w/ Intel oneAPI (MeluXina) 2024–2025

TECHNICAL SKILLS

- **Languages:** C/C++, Python, Java, SQL, Bash
- **Parallel:** OpenMP, MPI, CUDA (course-level)
- **ML:** PyTorch, PyTorch Geometric (GNNs/STGNNs), numpy
- **Interests:** Performance engineering, data analytics, deep learning, time-series forecasting

LANGUAGES

- Italian (native) — English (C1) — German (A2)