

TOMMASO CRIPPA

High Performance Computing Engineering Student

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🐙 Crippius

🌐 tommaso-crippa

EDUCATION

Double Master's Degree in High Performance Computing

Politecnico di Milano - University of Luxembourg

📅 29.25 / 30

📅 2024 - present

- Selected for the exclusive EUMaster4HPC double-degree programme, in which I participated in extracurricular HPC challenges, an international summer school and workshops with industry leaders

Bachelor degree in Computer Engineering

Politecnico di Milano

📅 110 cum laude / 110

📅 2021 - 2024

- Won "Migliori Matricole" scholarship for being one of Politecnico di Milano's best freshmen students of the 21/22 season.

Relevant courses completed: Parallel Computing, Advanced Computer Architectures, High Performance Data Analytics and Visualisation, Programming Machine Learning Algorithms for HPC, Artificial Neural Networks and Deep Learning, Time Series Analysis

EXPERIENCES

Master's Thesis Student @ MEGWARE Computer Vertrieb und Service GmbH

Chemnitz, Germany

🔗 HPC Machine Learning Time-Series SLURM Linux

📅 February 2026 - present

🐙 Crippius/hpc-bottleneck-detector

- Developing a performance analysis tool that detects different bottleneck types from 100+ multivariate time-series metrics ingested at ~5,000 data points per minute, using heuristic decision trees and weakly-supervised Random Forest classifiers.
- Implementing an end-to-end pipeline using a dual-strategy engine (heuristic-based and ml-based) to detect pipeline stalls, cache pressure, and intra/inter-node load imbalance without source-code instrumentation.

EUMaster4HPC Summer School on HPC for Specialised Applications

Ankara, Turkey

🔗 HPC CFD Parallel Programming NLP

📅 July 2025

- Attended the EUMaster4HPC Summer School at METU, covering parallel programming, CFD simulations, and AI across aeronautics, materials science, and oceanography, with hands-on industry training from MathWorks and other HPC specialists.

HPC Ambassador @ EUROHPC Summit

Krakow, Poland

🔗 HPC AI Fluid Dynamics

📅 March 2025

- Represented the EUMaster4HPC programme at the EuroHPC Summit, delivering live demonstrations of fluid dynamics simulations and LLM deployment on two of the biggest EuroHPC supercomputers (Leonardo and Discoverer) to the general public and HPC community.

Operations & Logistic @ Google Developer Group On Campus - Polimi

Milan, Italy

🔗 AI Cloud Mobile

📅 August 2024 - August 2025

- Organised and executed technical events on AI, Cloud Computing, and Mobile Development, including talks and workshops for 50+ attendees and a hackathon with 150+ participants, building community around modern data and cloud technologies.

PROJECTS

Early Alzheimer Detection with Deep Learning

🔗 Python pytorch keras nilearn C++ libtorch clinica SLURM

🐙 justvictor/Early_Alzheimer_Detection_DL

- Trained a 3D CNN for Alzheimer's classification on the ADNI dataset using the MeluXina EuroHPC supercomputer, implementing SLURM-scheduled preprocessing pipelines and GPU-parallelised training achieving Macro-AUC of 0.9197, up from 0.80 baseline.

High-Performance Graph Coloring with Branch-and-Bound Framework

🔗 Python MPI SLURM

🐙 Rudolfovoorg/EuroHPC_Student_Challenge_2025_Team_3

- Won the EuroHPC Student Challenge 2025 by parallelising a Branch-and-Bound graph coloring solver with MPI manager/worker on the VEGA supercomputer, achieving near-linear speedup as resource count scales from sequential to multi-task execution.

Whatsapp Wrapped

🔗 Python matplotlib pandas fpdf Flask HTML CSS Javascript Vercel Render

🐙 Crippius/whatsapp-wrapped

- Developed and deployed a full-stack application that parses WhatsApp chat exports, computes communication statistics, and generates PDF reports, serving 100+ users since launch via Vercel and Render.

SKILLS AND LANGUAGES

Tech Stack: Python (Advanced), C, C++, Java, Spark

Infrastructure: Git (Advanced), SLURM (Advanced), DVC, CUDA

Languages: Italian (Native), English (Proficient – IELTS 7.5), German (Beginner – A2)