TOMMASO CRIPPA

High Performance Computing Engineering Student

✉ crippa.tommaso@gmail.com   ⦿ Crippius   in tommaso-crippa

EDUCATION

Double Master's Degree in High Performance Computing   **Politecnico di Milano - University of Luxembourg**

🗄 29.25 / 30   🗓 2024 - present

- Selected among top candidates for the exclusive EUMaster4HPC double degree program

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:

- **Time Series Analysis**
- **Artificial Neural Network and Deep Learning**
- **Natural Language Processing**
- **Parallel Computing**
- **Streaming Data Analytics**
- **Advanced Computer Architectures**

PROJECTS

Early Alzheimer Detection with Deep Learning

</> `Python` `pytorch` `keras` `nilearn` `C++` `libtorch` `clinica` `SLURM`   ⦿ justvicthor/Early_Alzheimer_Detection_DL

- Developed a deep learning model for early detection of Alzheimer's disease, implementing data preprocessing and augmentation pipelines to analyze medical imaging data with gradCAM visualizations and improve diagnostic accuracy on MeluXina supercomputer.

Whatsapp Wrapped

</> `Python` `matplotlib` `pandas` `fpdf` `Flask` `HTML` `CSS` `Javascript` `Vercel` `Render`   ⦿ Crippius/whatsapp-wrapped

- Developed a script that, given an extracted Whatsapp chat, returns an informative visualization of the data hidden inside their conversations, and deployed it on a fullstack website to make this tool available to the general public.

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

</> `Python` `MPI` `SLURM`   ⦿ Rudolfovoorg/EuroHPC_Student_Challenge_2025_Team_3

- Won a competition where we were tasked to design and implement an optimized Branch-and-Bound algorithm to solve the graph coloring problem, integrating heuristics and parallelization techniques to improve scalability and minimize execution time on VEGA cluster.

Active Learning for Social Media Data Classification

</> `Python` `tensorflow` `matplotlib` `numpy` `pandas` `Colab`   ⦿ Crippius/al_project

- Analyzed Active Learning techniques and their impact on neural network training for classifying the relevance of social media posts, improving the data gathering process for handling responses to crises and disasters.

EXPERIENCES

Member of Google Developer Group (GDG On Campus - Polimi)   **Milan**, Italy

</> `AI` `Cloud` `Mobile`   🗓 2024 - 2025

- Actively contributed to the planning and execution of various technical events, including organizing talks, workshops, and hackathons focused on emerging technologies such as Artificial Intelligence Cloud Computing and Mobile Development.

Summer School on HPC for Specialised Applications   **Ankara**, Turkey

</> `CUDA` `CFD` `MATLAB` `Python`   🗓 2025

- Participated in an intensive 2-week program focusing on High Performance Computing applications across diverse domains including computational fluid dynamics, climate modeling, and cybersecurity, with hands-on training using TRUBA supercomputing resources.

SKILLS AND LANGUAGES

Programming Languages:
- **Python** (Advanced)
- **C** (Advanced)
- **C++** (Academic)
- **Java** (Academic)
- **Javascript** (Academic)

Skills:
- **Git** (Advanced)
- **SLURM** (Advanced)
- **SQL** (Academic)
- **Kafka** (Academic)
- **Spark** (Academic)

Languages:
- **Italian** (Native)
- **English** (Proficient): IELTS 7.5
- **German** (Beginner)