

Lorenzo Drudi

MSc STUDENT IN COMPUTER SCIENCE · EPFL

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Experience

Software Engineer | Medical Imaging Researcher

Meldola (FC), Italy

ROMAGNA INSTITUTE FOR CANCER STUDY "DINO AMADORI" - IRST

Dec 2022 - Aug 2023

- Worked inside the **MiAi** (Microscopy & Artificial Intelligence) team.
- **Main research topics:** Image Processing, Image Fusion, and Image Reconstruction applied to the field of Oncology.
- Developed several state-of-the-art algorithms for the fusion of multiple 2D segmentations (*TDSFT*).
- **Tech Stack:** [MATLAB, App Designer, ImageJ/Fiji, Image Processing Toolbox, Parallel Computing Toolbox].

Software Engineer Intern | DevOps

Remote

MLH FELLOWSHIP - G-RESEARCH

Jun 2022 - Sep 2022

- Selected as one among 220 fellows out of thousands of applicants in the *MLH Summer Fellowship Program*.
- Worked with the *G-Research DevOps OpenSource* team.
- Managed *GitHub Runners* infrastructure using *Pulumi*.
- Automated workflows using custom *GitHub Action* written in *JavaScript*. Achieved a significant productivity improvement.
- **Tech Stack:** [Java, JavaScript, TypeScript, Pulumi, AWS, GCP, Linux, Docker, GitHub/GitHub Actions].

Education

MSc in Computer Science

Lausanne, Switzerland

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE (EPFL)

Sep 2023 - present

- Specialization in **Data Analytics**.
- **Focus:** Deep Learning, Distributed Systems, Machine Learning and Natural Language Processing.

BSc in Computer Science and Engineering

Cesena, Italy

UNIVERSITY OF BOLOGNA

Sep 2020 - Jul 2023

- Final mark: **110/110 cum laude**, GPA: **29.5/30** (top 0.3%).
- **Focus:** Algorithms and Data Structures, High-Performance Computing, Operation Research and OOP.
- **Excellence Scholarship:** merit award granted to the 69 best students of the School of Engineering and Architecture (top 1%).

Projects

Semester project student - EPFL

- Laboratory: *DLAB*.
- Supervisor: prof. Robert West.
- Tasks: Prompt-level shaping of **LLM personalities** and study of interactions between **LLM-based agents** with distinct personality traits.
- **Tech Stack:** [Python, PyTorch, Transformers, LMQL].

Autonomous Drone Racing Team

- Partnership with the *Technology Innovation Institute of Abu Dhabi (TII)*.
- Developed a simulated **autonomous drone** presented to the *ICRA DodgeDrone Challenge*.
- **Tech Stack:** [Python, ROS, AWS, Keras, TensorFlow].

Network-flows

- Command-line solver for **network-flow optimization** problems.
- Easy-to-use and user-friendly graph visualization.
- **Tech Stack:** [C++, CMake, Python, Matplotlib, Linux].

Publications

Piccinini F^{*}, **Drudi L**, Pyun J-C, Lee M, Kwak B, Ku B, Carbonaro A, Martinelli G and Castellani G (2024). *Two-dimensional segmentation fusion tool: an extensible, free-to-use, user-friendly tool for combining different bidimensional segmentations*. Front. Bioeng. Biotechnol (Q1, IF: 5.7). 12:1339723. doi: 10.3389/fbioe.2024.1339723.

Awards

Lead The Future Mentee

Among the few Italian students selected to be mentees for *LeadTheFuture*. *LeadTheFuture* is a leading mentorship non-profit organization for students in STEM, with an acceptance rate below 20%.

Prometeia Talent Journey Hackathon - 1st place

Algorithmic and problem-solving competition hosted by *Prometeia*. First place over all the computer science students of the University of Bologna.