Giacomo Castagnetti

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I am a science and technology enthusiast who is addicted to learning new things. I am a very good listener and I like to work in a team. In my free time I enjoy baking, hiking and playing sports.

Education

- **Master in Computational Biology and Bioinformatics**　　2024 – 2026 | Zurich, Switzerland
  Eidgenössische Technische Hochschule Zürich (**ETHZ**)
  Combining rigorous training in computer science, mathematics, and biology, the program offers practical experience through lab rotations and mentorship to ensure a flexible, customized learning journey. Graduates are able to **approach and solve complex biological and data-driven problems**.

- **Bachelor of Genomics** – 3rd year　　　　　　　　　　2021 – 2024 | Bologna, Italy
  Alma Mater Studiorum - University of Bologna
  This highly interdisciplinary course prepares the student on mathematics, statistics, programming, genetics and molecular biology knowledge useful to **bioinformatics**; the numerous hours of **wet and dry lab work** allow students to acquire remarkable practical skills.

- **High school**　　　　　　　　　　　　　　　　2016 – 2021 | Reggio Emilia, Italy
  Lyceum of applied sciences Antonio Zanelli - Final grade: 100/100 (extra wet lab experience)

Work experience

- **Summer student at Biozentrum** (320 hours)　　　　Jul – Aug 2023 | Basel, Switzerland
  I was selected to participate in the Biozentrum Research Summer program together with other 12 excellent students across Europe. I joined the lab of Richard Neher. My contributions to the lab included:
  - Developing an **innovative method for tracking recombination in a population of bacteriophages**: I leveraged the High-Throughput and efficiency of ONT sequencing data to characterize an entire population of heterogeneous phages at once. This method demonstrated to be as accurate as clone screening but tremendously faster. (currently writing a paper on the findings)
  - **Nextstrain workflow**: track evolution and spreading of West Nile Virus.
  - Manual bacteriophage evolution experiment: performed **phage biology** wet lab techniques, and Oxford Nanopore MinION run.

- **Student assistant at Centro Palmer**　　　　　　　Jun 2019 | Reggio Emilia, Italy
  I worked in a **Medically Assisted Reproduction centre**, where I assisted Luigi Muzii. This first working experience sparked in me the passion for science.

Skills

- Languages: Italian, English

- Programming: Python, bash, R, HTML, CSS, C++

- High power computing: tmux, SLURM, Snakemake

- Software: bioinformatics software (igv, Tablet, chimera, aliview), bioinformatics webapps (BLAST, UCSC, Nextstrain), Adobe Premiere Pro, Photoshop, Illustrator, Blender, Microsoft suite

- Wet lab: phage purification, serial dilution spotting, ONT, protein purification, protein quantification, pcr, bacterial transformation, spermiograms

Extracurriculars

- Amazon Alexa skill development: I participated in a contest to develop applications for Alexa

- Volleyball (2010 – Present)

- Blood donor