

Andrea Ghirlanda

+41 79 178 86 14 | aghirlanda@student.ethz.ch | Personal Website: <https://andreaghirlanda.github.io>

Education

- 2024 - Present **ETH (Swiss Federal Institute of Technology) Zürich**
Data Science MSc
- 2020 – 2023 **ETH (Swiss Federal Institute of Technology) Zürich**
Electrical Engineering and Information Technology BSc
- 2016 – 2020 **Liceo Cantonale di Lugano 1**
Profile: Applied Mathematics and Physics
Matura (End-of-Highschool) Project: Eye – Tracking with Convolutional Neural Network

Projects

2025 (Ongoing)

Research Project: Treatment Effect Estimations in Intensive Care Foundation Models

- Development of various models for Conditional Average Treatment Effect (CATE) estimation using novel Intensive Care Unit (ICU) dataset that incorporates data from various hospitals.
- Subsequent analysis of the models' robustness to distribution shifts.

2023

Bachelor Thesis: Real-time Prediction of Sepsis Onset with Machine Learning Models

- Data analysis and preprocessing
- Machine learning model development and testing
- Optimization of the model's size and deployment on microcontroller

2022

Practical Project: Controlling Biological Neuronal Networks Using Machine Learning

- Created in-vitro biological neuronal network in wet-lab
- Developed reinforcement learning algorithms to learn “best” neuronal network stimulation pattern

Languages

| | |
|---------|---------------|
| Italian | Mother tongue |
| English | Fluent |
| German | Fluent |
| French | Fluent |

Programming/IT – Skills

Programming Languages

- C++
- C
- Python (also various ML and data analysis/manipulation libraries such as pandas, pytorch, etc)
- R
- SQL