

# SIMONE LICCIARDI

 +39 342 020 9779

 contact@ slicciardi.it

 in/slicciardi

 slicciardi.it

## PROJECTS

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### Competition Winner, ETH Zürich

11/2025

Ranked **1st** in competition within 450-student graduate class. Report accessible [here](#).

- Implemented fastest optimal decision-making numerical algorithm (**2.5 times quicker** than runner-up).
- Exploited problem structure and accelerated Bellman solvers (50Hz performance). (Scipy, Numpy)

### Semester Research Project (2026), ETH Zürich

02/2026

Non-incremental work in 3D flow reconstruction from Particle Image Velocimetry (PIV) data, aimed at downstream online RL-based control of fluids. Builds upon [this work](#).

### Undergraduate Research, Independent

09/2024 – 12/2024

Literature Review, aimed at producing Thesis proposal. Conducted independently, report accessible [here](#).

## EDUCATION

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### MSc in Computational Engineering (Robotics specialization), ETH Zürich

09/2025 – 07/2027

- *Relevant Programming Experience*: (Python, c++, Git, Linux)
  - Working proficiency in [advanced c++](#) (Generic- and Meta-Programming) and [Fortran](#) libraries (BLAS),
  - Working proficiency in [Python](#); below package-specific experience,
  - Experience with c++ and [Cuda](#) on clusters: attending Spring 2026 HPC project-based [course](#).
- *Relevant Robotics Experience*: (Python packages PyTorch, control)
  - Simulated and designed dynamics control for fixed- and floating-base multi-joint robots ([Matlab](#), [Pinocchio](#)),
  - Simulated, designed and deployed control on multi-rotor and fixed-wing platforms,
  - Ability to implement uncertainty estimation algorithms for better  $\sim 1 - 10$ Hz decision making (Gauss Processes, Bayesian Optimization, Neural Nets Uncertainty Quantification, Entropy-regularized RL).

### BSc in Mathematical Engineering, Politecnico di Milano

09/2022 – 07/2025

Coursework in physics- and data-driven Scientific Computing and Modeling for Engineering.

- **Ranked 1st** within 345-student cohort for 2+ years with **GPA 30/30** (*9 honours, 17 perfect marks*).
- Additional graduate coursework in Deep Learning and Neural Networks.
- *Relevant Coursework*: advanced numerics and solvers, convex optimization, statistics, control theory, device electronics, circuits. Extensive coursework in probabilistic and physical modelling.

### BSc Exchange Programme, New York University

01/2025 – 05/2025

Coursework in Applied Mathematics. *Admission*: **2%** rate, first-ever from my course.

### Math & Physics Competitions (High School), Liceo Scientifico A. Volta

09/2017 – 07/2022

- National finalist in Physics and Mathematics competitions.
- Trained the school's math team, winner of 3 out of 5 of the latest national competitions.

## SELECTED COURSES

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### M2L Summer School, Google DeepMind

2024-2025, 92h

DeepMind's ML Programme for top Southern Europe researchers. *Admission*: 14% rate.

### National preparation for IPho/IMO Italian Team, Scuola Normale Superiore di Pisa

2022, 80h

## EXPERIENCE

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### Ambassador & Mentee, Lead The Future Mentorship

09/2023 – 09/2025

LTF is the largest Mentorship programme for STEM Excellence in Italy, and a project I believe in.

- *Impact*: highest no. of admitted referrals in 2024 (6% of total), while Ambassador at PoliMi.
- *Admission*: 13% rate.

### Team Leader, AIM - Mathematical Engineers Association

11/2022 – 05/2024

AIM is a student association with over **3000 members**.

- Led up to **16 people** on core programs, achieving over 200 participants.
- *Impact*: over 300 new memberships, achieving the highest annual growth to date.