

Elisabetta Fedele

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Education

Sep. 2021 – **Master in Computer Science, ETH Zürich**

- present
- Major in **Machine Intelligence** and Minor in **Theoretical Computer Science**.
 - **Courses:** Algorithmic Game Theory, Algorithms Lab, Randomized Algorithms and Probabilistic Methods, Graph Theory, Computational Intelligence Lab, Generative Visual Models, Advanced Machine Learning, Machine Perception, Computer Graphics, Computer Vision, NLP.

Sep. 2018 – **Bachelor in Computer Systems Engineering, Politecnico di Milano**

Jun. 2021

- Final grade: 110/110 *cum laude*.

- **Selected courses:** Probability and Statistics, Mathematical Analysis I and II, Linear Algebra, Algorithms and Principles of Theoretical Computer Science, Software Engineering.

Research Experience

Jul. 2023 – **Research Intern, EPFL**

- Sep. 2023
- Advised by Prof. Alessandro Chiesa and part of Compsec Lab.
 - We worked on the time-space tradeoff of sumcheck protocol. We have found a new algorithm which interpolates between the best two existing solutions.

Mar. 2023 – **Semester Project Student, Google Zürich**

- Jun. 2023
- Co-advised by Dr. Francis Engelmann, Dr. Federico Tombari, and Prof. Marc Pollefeys.
 - We leveraged the capabilities of CLIP to expand the task of 3D instance segmentation to an Open-Vocabulary setting.
 - Resulted in a publication at **NeurIPS 2023**

Publications

Elisabetta Fedele*, Ayca Takmaz*, Robert W. Sumner, Marc Pollefeys, Federico Tombari, Francis Engelman. OpenMask3D: Open-Vocabulary 3D Instance Segmentation. *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

Elisabetta Fedele*, Dimitri Von Rütte*, Jonathan Thomm*, Lukas Wolf*. FABRIC: Personalizing Diffusion Models with Iterative Feedback. *Under review*, 2023.

Teaching Experience

Feb. 2023 – **Machine Perception, ETH Zürich**

- Aug. 2023
- Authored lecture notes for the course.

Sep. 2020 – **Fundamentals of Computer Science, Politecnico di Milano**

- Jan. 2021
- Tutored an undergraduate class of 250 students during the coding laboratory.

Academic Projects

Sep. 2022 – **Ray tracing renderer, ETH Zürich**

- Dec. 2022
- I implemented a ray tracing renderer in C++ for the course of *Computer Graphics*.

* authors contributed equally

- May 2022 - **Sentiment Analysis of Tweets**, *ETH Zürich*
- Jul. 2022
- Group project for the course of *Computational Intelligence Lab*.
 - We compared performance of BERTweet, LSTM on Word2Vec embeddings and FastText and we finetuned BERTweet to achieve an accuracy of 92.04%.
 - Code available [here](#).
- Apr. 2022 - **3D Human Pose and Shape Estimation from RGB Images**, *ETH Zürich*
- Jun. 2022
- Group project for the course of *Machine Perception*.
 - We implemented a modified version of PARE in PyTorch, with a HR-NetV32 backbone, achieving an error of 57.5 PA-MPJPE.
 - Report available [here](#).

Honors & Awards

- 2023 **Summer@EPFL Fellowship**, *EPFL*
- 2022-2023 **Scholarship for Sardinian students**, *Regione Sardegna*
- 2020-2021 **Merit-Based Scholarship**, *Politecnico di Milano*
- 2019 **Scholarship for Sports Merits**, *Politecnico di Milano*
- 2019 **Best Freshmen Prize**, *Politecnico di Milano*

Languages and Skills

Languages: Italian (native), English (fluent), French (basic), German (basic).

Computer Skills: Python, Java, C, C++, MATLAB, Git, L^AT_EX, PyTorch, TensorFlow, Open3D.

Extracurricular activities

- 2022 - **Sailing Instructor Diploma - Level I**, *Italian Sailing Federation*
- present
- 2006–2019 **Professional Optimist and 420 sailor**, Cagliari/Mandello del Lario
- Member of the **Italian Sailing Team** from 2012 to 2019.
 - Competed in 6 **World Championships** and in 4 **European Championships**.
 - Awarded **Best Italian Female Sailor** by *Tutto Vela* for the year 2014.