

Elisabetta Fedele

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Education

- Sep 2024 – **PhD in Computer Science, ETH Zürich**
present
 - Co-advised by Prof. Marc Pollefeys and Prof. Bernhard Scholkopf
 - Supported by the ETH AI Center Fellowship (2% acceptance rate)
- Sep 2021 – **Master in Computer Science, ETH Zürich**
July 2024
 - 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*.

Research Experience

- Mar. 2025 – **Research Intern, Stanford University**
Aug. 2025
 - Advised by Leonidas Guibas and Francis Engelmann.
 - Worked on primitive-based representations of 3D scenes and on spatial conditioning for 3D generation.
 - Resulted in first-author publications at **ICCV 2025 (Oral)** and **ICLR 2026**.
- Feb. 2024 – **Master Thesis Student, ETH**
July 2024
 - Advised by Marc Pollefeys and Francis Engelmann.
 - Worked on primitive-based representations of 3D scenes.
- Jul. 2023 – **Research Intern, EPFL**
Sep. 2023
 - Advised by Alessandro Chiesa and Giacomo Fenzi.
 - We found a new family of algorithms that greatly improves the asymptotic and practical performance of the sumcheck protocol. Recently, these algorithms were proven to be optimal.
 - Resulted in a publication at *Theory of Cryptography Conference (TCC) 2025*.
- Mar. 2023 – **Semester Project Student, Google Zürich**
Jun. 2023
 - Advised by Federico Tombari, Marc Pollefeys, and Francis Engelmann.
 - 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**.
- Oct. 2020 – **Research Assistant, Politecnico di Milano**
Mar. 2021
 - Advised by Stefano Ceri.
 - We processed and analyzed data on SARS-CoV2 viral sequence mutations at the nucleotide and amino acid levels.

Publications and Preprints

- 🔗 **Elisabetta Fedele***, Francis Engelmann*, Ian Huang, Or Litany, Marc Pollefeys, Leonidas Guibas. SpaceControl: Introducing Test-Time Spatial Control to 3D Generative Modeling. *International Conference on Learning Representations (ICLR) 2026*. Also presented as a demo at ICCV'25.
- 🔗 **Elisabetta Fedele**, Boyang Sun, Leonidas Guibas, Marc Pollefeys, Francis Engelmann. SuperDec: 3D Scene Decomposition with Superquadric Primitives. *International Computer Vision Conference (ICCV) 2025 (Oral, top 2.4%)*.
- 🔗 Dimitri Von Rütte*, **Elisabetta Fedele***, Jonathan Thomm*, Lukas Wolf*. FABRIC: Personalizing Diffusion Models with Iterative Feedback. *European Conference on Computer Vision Workshops (ECCVW) 2024*.

🔗 Ayca Takmaz*, **Elisabetta Fedele***, Robert W. Sumner, Marc Pollefeys, Federico Tombari, Francis Engelmann. OpenMask3D: Open-Vocabulary 3D Instance Segmentation. *Advances in Neural Information Processing Systems (NeurIPS)* 2023. Also presented in Google Zürich, Google booth at ICCV'23 and ICML'24, Zürich AI+X Summit 2023. Also featured in Computer Vision News.

Academic Activities, Service, and Outreach

- 2023-present **Co-organizer of OpenSUN3D, ICCV'23'25, ECCV'24, CVPR'24'25'26**
I am among the organizers of OpenSUN3D, a series of Workshops on Open-Vocabulary 3D Scene Understanding, held twice a year in conjunction with the major computer vision conferences.
- 2024-present **Co-organizer of ZurichCV Meetups, Zurich**
I am among the organizers of the ZurichCV Meetups, a monthly meetup which gathers the Computer Vision community of Zurich both from academia and industry.
- 2024-present **Conference reviewer**
Reviewed papers for workshops and main conferences at SIGGRAPH, SIGGRAPHASIA, ICCV, ECCV, CVPR, 3DV, ICLR, ICRA.

Honors & Awards

- 2025 **SwissAI Grant for Small Projects**, SwissAI, 50k GPU hours
- 2025 **NVIDIA Academic grant**, NVIDIA, USD 100k cloud credit, 12k hardware
- 2025 **SNSF Mobility Grant in Projects**, Swiss National Science Foundation (SNSF), CHF 20k
- 2025 **ETH AI Center Doctoral Fellowship**, ETH AI Center, 2% acceptance rate
- 2024 **ICVSS Best Presentation Award**, International Computer Vision Summer School (ICVSS)
- 2023 **NeurIPS 2023 Scholar Award**, NeurIPS
- 2023 **Summer@EPFL Fellowship**, EPFL, 1.5% acceptance rate
- 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

Extracurricular activities

- 2022 - present **Sailing Instructor Diploma - Level I**, Italian Sailing Federation
- 2012–2019 **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.

* authors contributed equally