Elisabetta Fedele

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Education

Sep 2021 – present
Master in Computer Science, *ETH Zürich*
- 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 – Jun. 2021
Bachelor in Computer Systems Engineering, *Politecnico di Milano*
- 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 – present
Research Intern, *EPFL*
- Advised by Prof. Alessandro Chiesa and part of Compsec Lab.
- Working on the time-space tradeoff of sumcheck protocol. We have found a new algorithm which interpolates between the best two existing solutions.

Mar. 2023 – Jun. 2023
Semester Project Student, *Google Zürich*
- Co-advised by Dr. Francis Engelmann, Prof. 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.

Teaching Experience

Feb. 2023 – Aug. 2023
Machine Perception, *ETH Zürich*
- Authored lecture notes for the course.

Sep. 2020 – Jan. 2021
Fundamentals of Computer Science, *Politecnico di Milano*
- Tutoring an undergraduate class of 250 students during the coding laboratory.

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. *Arxiv preprint*.

Academic Projects

2022   **Sentiment Analysis of Tweets**, *ETH Zürich*
- We compared performance of BERTweet, LSTM on Word2Vec embeddings and FastText and we finetuned BERTweet to achieve an accuracy of 92.04%.

2022   **3D Human Pose and Shape Estimation from RGB Images**, *ETH Zürich*
- We implemented a modified version of PARE in PyTorch, with a HR-NetV32 backbone, achieving an error of 57.5 PA-MPJPE.

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 Merit**, *Politecnico di Milano*

2019   **Best Freshmen Prize**, *Politecnico di Milano*

Extracurricular activities

2022   **Sailing Instructor Diploma - Level I**, *Italian Sailing Federation*

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.