ELENA CAMUFFO

Vision/AI Postdoctoral Researcher

📞 (+39) 348 373 6464 ✉ elenacamuffo97@gmail.com ⌗ elenacamuffo.github.io

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WORK EXPERIENCE

University of Padova | Padova, Italy   2024 – Present
- *Postdoctoral Research Scientist.*
- Conducted research in 3D Computer Vision, VR/AR Optimization, Multimodal Scene Understanding and Visual Representation Learning.
- Supervised and mentored M.Sc. and Ph.D. students.

Samsung Research | London, UK   2023 – 2024
- *AI and Graphics Research Intern.*
- Advisor: Dr Mete Ozay.
- Research Area: Improved existing algorithms for efficient personalized object detection and recognition. Developed on-device solutions.
- Publication of 2 papers and filing of 1 patent.

University of Padova | Padova, Italy   2019 – 2024
- *Teaching Assistant (4+ years teaching Unity).*
- Prepared and taught lab lectures in courses such as "3D Vision and eXtended Reality", "Digital Forensics", "Digital and Interactive Multimedia", "Usability and User Experience".

Uqido S.R.L. | Padova, Italy   2022 – 2022
- *Unity (C#) Developer.*
- Developed a VR application for Quest 2 in collaboration with the Department of Pharmaceutical Sciences.

EDUCATION

University of Padova   Padova, Italy
Ph.D. in Information Engineering   2021 – 2024
- Advisor: Prof. Simone Milani
- Research area: Multimodal Scene Understanding and Representation Learning.
- Published 10 papers in International Journals and Conferences.

University of Padova   Padova, Italy
M.Sc. in Internet and Multimedia Engineering   2019 – 2021
- GPA: 30/30 | Grade: 110/110 with Honors.
- Thesis: "Curriculum Learning for LiDAR Semantic Segmentation".

University of Padova   Padova, Italy
B.Sc. in Information Engineering   2016 – 2019
- Thesis: "Mixed Reality Applications in Medical Therapy" - *MR application for HoloLens in collaboration with Dreamship Studios s.r.l.*

OTHER EDUCATION

BigRock Institute of Magic Technologies   Treviso, Italy
Master in Computer Graphics   2024 – 2025
- Professional technical and artistic training in 3D Computer Graphics.
- Certified in Autodesk Maya. Overview of different CG software.

SKILLS

Languages: Italian (C2), English (C1), French (A2).

Programming: Python, C++, MATLAB, C, C#, Bash, TensorFlow, PyTorch, OpenCV.

Software: Autodesk Maya, Blender, Unreal Engine (C++), Unity (C#), Houdini, Adobe Photoshop, Marvelous Designer, Substance Painter, ZBrush.

Soft Skills: Public speaking, Mentoring, Teamwork, Project management.

- **Video selected for Computer Animation Festival (CAF) Teaser,**
  SIGGRAPH 2025, Vancouver. 2025
- **Best Student Presentation**, APCCAS 2021 conference, Taiwan. 2021
- **Scholarship - Best Student Award,**
  Seasonal School AIRONE, Scuola Superiore S.Anna, Pisa, IT. 2021

Publications
                                                            International Conferences

C1. Chiara Schiavo, **Elena Camuffo**, Leonardo Badia, and Simone Milani, "SAGE: Semantic-Driven Adaptive Gaussian Splatting in Extended Reality", In *EUSIPCO*, 2025.

C2. Aygun Jabrayilova, **Elena Camuffo**, Laura Crosara, and Leonardo Badia, "Age of Information for Quantum Communication Channels with Monogamy of Entanglement", In *MeditCOM*, IEEE, 2025.

C3. **Elena Camuffo**, Umberto Michieli, Simone Milani, Ji Joong Moon, and Mete Ozay. "Enhanced Model Robustness to Input Corruptions by Per-corruption Adaptation of Normalization Statistics". In *International Conference on Intelligent Robots and Systems (IROS)*. IEEE, 2024.

C4. Francesco Barbato, **Elena Camuffo**, Simone Milani, and Pietro Zanuttigh. "Continual road- scene semantic segmentation via feature-aligned symmetric multi-modal network". In *International Conference on Image Processing (ICIP)*. IEEE, 2024.

C5. **Elena Camuffo**, Umberto Michieli, Ji Joong Moon, Daehyun Kim, and Mete Ozay. "FFT-based selection and optimization of statistics for robust recognition of severely corrupted images". In *International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, 2023.

C6. Devid Campagnolo*, **Elena Camuffo***, Umberto Michieli, Paolo Borin, Simone Milani, and Andrea Giordano. "Fully automated scan-to-BIM via point cloud instance segmentation". In *International Conference on Image Processing (ICIP)*. IEEE, 2023.
*: denotes equal contribution.

C7. **Elena Camuffo** and Simone Milani. "Continual learning for LiDAR semantic segmentation: Class-incremental and coarse-to-fine strategies on sparse data". In *International Conference of Computer Vision and Pattern Recognition Workshops (CVPRW)*. IEEE, 2023.

C8. **Elena Camuffo**, Federica Battisti, Francesco Pham, and Simone Milani. "Deep 3D model optimization for immersive and interactive applications". In *European Workshop on Visual Information Processing (EUVIP)*. IEEE, 2022.

C9. **Elena Camuffo**, Luca Gorghetto, and Leonardo Badia. "Moving drones for wireless coverage in a three-dimensional grid analyzed via game theory." In *Asia Pacific Conference on Circuit and Systems (APCCAS)*, IEEE, 2021.

                                                            International Journals

J1. Marco Maida, Alberto Crescini, Marco Perronet, **Elena Camuffo**, "Claycode: Stylabe and Deformable 2D Scannable Codes", In *Transactions on Graphics (TOG)*, ACM, 2025. [*Oral presentation at SIGGRAPH 2025, video selected for CAF Teaser*].

J2. **Elena Camuffo**, Umberto Michieli, and Simone Milani. "Learning from mistakes: Self-regularizing hierarchical representations in point cloud semantic segmentation". *Transactions on Multimedia (TMM)*, IEEE, 2023.

J3. Daniele Mari, **Elena Camuffo**, and Simone Milani. Cactus: "Content-aware compression and transmission using semantics for automotive LiDAR data". *Sensors*, 2023.

J4. **Elena Camuffo**, Daniele Mari, and Simone Milani. "Recent advancements in learning algorithms for point clouds: An updated overview". *Sensors*, 2022.