

# Giulia Rizzoli

*Ph.D Student*

Date of birth: 1996-04-25

Padova, PD, Italy

✉ [giulia.rizzoli@dei.unipd.it](mailto:giulia.rizzoli@dei.unipd.it)

🌐 [rizzoligiulia.github.io](https://rizzoligiulia.github.io)

in [rizzoli-giulia](https://rizzoli-giulia.github.io)

🔗 [rizzoligiulia](https://rizzoligiulia.github.io)

## Research Interests

Computer Vision, Deep Learning, Continual Learning, Multi-modal, Domain Adaptation, Self-Supervised, Semantic Segmentation

## Work Experience

- Oct. 2021 - **Teaching Assistant**, University of Padova.  
present Courses: Machine Learning (21/22, 23/24), Computer Vision (22/23, 23/24)
- Apr. 2021 - **Research Intern**, Sony, Stuttgart, Germany.  
Aug. 2021 3D Dataset construction and reflectance estimation from Time-of-flight

## Education

- Oct. 2021 - **Ph.D. in Information Engineering**, University of Padova, Department of  
present Information Engineering, LTTM research group.  
Supervisor: Pietro Zanuttigh.  
Research topic: Multi-modal Scene Understanding.
- Oct. 2019 - **M.Sc. in ICT for Internet and Multimedia**, University of Padova.  
Sept. 2021 Grade: 110/110 with honors.  
Thesis: Reflectance Estimation using Time-of-Flight cameras.  
Supervisor: Pietro Zanuttigh.  
Co-Supervisor: Henrik Schäffer.
- Oct. 2020 - **Erasmus+ in Electrical and Communication Engineering**, RWTH  
Mar. 2021 Aachen.
- Sep. 2015 - **B.Sc. in Information Engineering**, University of Padova.  
Oct. 2019 Thesis: Methods for the analysis of heterogeneous biological signals.  
Supervisor: Giulia Cisotto.
- Jan. 2014 - **College Exchange**, Kings Colleges, Bournemouth.  
Mar. 2014 A-level classes in Maths, Physics, Biology, Chemistry, and Academic English.

## Skills

- Programming: Python, C, C++, Matlab, R, Java
- Typesetting: L<sup>A</sup>T<sub>E</sub>X
- Scientific Computing: Numpy, SciPy, Pandas, Matplotlib, Scikit-learn
- Deep Learning: PyTorch, TensorFlow, Keras, OpenCV
- System: Git, HPC, Singularity, Slurm
- Languages: English (Professional), Italian (Native), German (Elementary)

## Publications

### Journals

- [J1] G. Rizzoli, F. Barbato, P. Zanuttigh, “Multimodal Semantic Segmentation in Autonomous Driving: A Review of Current Approaches and Future Perspectives”, Technologies, 2022.
- [J2] D. Shenaj\*, G. Rizzoli\*, P. Zanuttigh, “Federated Learning in Computer Vision”, IEEE Access, 2023.
- [J3] L. Chang, G. Rizzoli, F. Barbato, U. Michieli, Y. Niu, P. Zanuttigh, “RECALL+: Adversarial Web-based Replay for Continual Learning in Semantic Segmentation”, Under Review.

### Conferences

- [C1] F. Barbato, G. Rizzoli, P. Zanuttigh, “Depthformer: Multimodal positional encodings and cross-input attention for transformer-based segmentation networks”, in: ICASSP 2023-2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), IEEE, 2023.
- [C2] G. Rizzoli\*, F. Barbato\*, M. Caligiuri\*, P. Zanuttigh, “SynDrone - Multimodal UAV Dataset for Urban Scenarios”, in: Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV) Workshops, 2023.
- [C3] G. Rizzoli, D. Shenaj, P. Zanuttigh, “Source-Free Domain Adaptation for RGB-D Semantic Segmentation with Vision Transformers”, Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Workshops, 2024.
- [C4] H. Jung, S.-C. Wu, P. Ruhkamp, P. Wang, H. Schieber, G. Rizzoli, H. Zhao, S. D. Meier, D. Roth, N. Navab, B. Busam, “HouseCat6D - A Large-Scale Multi-Modal Category Level 6D Object Pose Dataset with Household Objects in Realistic Scenarios”, Under review.
- [C5] G. Rizzoli\*, M. Caligiuri\*, D. Shenaj, F. Barbato, P. Zanuttigh, “When Cars meet Drones: Hyperbolic Federated Learning in Adverse Weather”, Under Review.

\* indicates equal contribution

---

## Venues and Seasonal Schools

Participation in the Summer School of Enabling Technologies for Industrial Internet of Things 2020, University of Pisa

Participation in the International Computer Vision Summer School (ICVSS) 2022, acceptance rate  $\sim 24\%$

Participation in the International Summer School on Machine Vision (VISMAC) 2023  
Attended WACV23, ICASSP23, CVPR23, ICCV23

---

## Grants

2023 **DEI Grant**, ICCV Paris, Computer Vision Foundation

2023 **Travel Fellowship**, Synapse AI, Bending Spoons

2022 **Research Scholarship**, Department of Information Engineering, University of Padova.  
Research Title: “Multi-modal Semantic Segmentation”.  
Project: Enhanced Photography with Deep Learning.

2021 **Research Scholarship**, Department of Information Engineering, University of Padova.  
Research Title: “Incremental Learning Techniques for Semantic Segmentation”.  
Project: Semantic Segmentation in the Wild.

2021 **Erasmus+ for Traineeships**

2020 **Erasmus+ for Studies**

---

## Projects

Nov. 2019 - **Polarization in Pro-Life and Pro-Choice Network on Twitter**, Information  
Jan. 2020 Engineering Department (DEI) of Padova in collaboration with Linguistic and Literary  
Studies Department (DISLL)

Network analysis on the topic of abortion based on the use of different hashtags and words to reinforce opinion. The different connections between the tweets, their text and their hashtags underlined political and ideological orientations.

Apr. – Jun. **SARS-CoV-2 gene analysis**, Information Engineering Department (DEI) of Padova  
2020 Project following the COVID-19 outbreak: exploitation of genomics computational techniques to underline differential gene expression, ontology and discovering clusters.

---

## Interests

Travelling, Hiking, Volleyball and Cats.