Donald Shenaj

AI Researcher

Date of birth: 1997-10-20
London (UK)
✉ *dshenaj@gmail.com*
🌐 *donaldssh.github.io*
in *donald-shenaj-aaa5b51bb*
ⓧ *donald shenaj*
🐙 *donaldssh*

Research Interests

Federated Learning, Continual Learning, Domain Adaptation, Model Merging, Image Generation

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Work Experience

Oct. 2024 - Apr. 2025
Research Intern, Samsung Research UK.
Supervisors: Umberto Michieli, Mete Ozay.

May 2023 - Nov. 2023
Visiting Researcher, Mila - Quebec AI Institute & Concordia University.
Supervisor: Eugene Belilovsky.

Oct. 2021 - Sep. 2024
Teaching Assistant, University of Padova.
M.Sc. courses: Computer Vision (22/23, 23/24), Scientific computing with python (22/23), Machine Learning (21/22, 23/24).

Mar. 2021 - Aug. 2021
Research Intern / Master Thesis, University of Padova, Department of Information Engineering, MEDIA research group.
Supervisor: Pietro Zanuttigh.

Education

Oct. 2021 - Mar. 2025
Ph.D. in Information Engineering, University of Padova, Department of Information Engineering, LTTM research group.
Thesis: Morphing Distributed and Transfer Learning Paradigms for Visual Understanding.
Final reviewed version submitted on 2024/12/02.
Supervisor: Pietro Zanuttigh.
Seasonal schools: IEEE-EURASIP S3P 2024, GTTI 2024, Mila GFlowNet 2023, CIFAR DL+RL 2023, GTTI 2023, IEEE-DEI SSIE 2022, GTTI 2022.

Oct. 2019 - Sep. 2021
M.Sc. in ICT for Internet and Multimedia, University of Padova.
Grade: 110/110 cum Laude.
Thesis: Coarse-to-Fine Learning for Semantic Segmentation across Multiple Domains.
Supervisor: Pietro Zanuttigh.

Sep. 2016 - Oct. 2019
B.Sc. in Electronics Engineering for Energy and Information, University of Bologna.
Grade: 110/110 cum Laude.
Thesis: Implementation and analysis of a vehicle counter system with Python and OpenCV.
Supervisor: Enrico Paolini.

Skills

- Programming: C, C++, Python, Matlab/GNU Octave, Bash, VHDL, LabVIEW, Java, JavaScript
- Typesetting: LaTeX, Manim, Markdown, HTML, CSS
- Libraries: PyTorch, TensorFlow, Keras, OpenCV, Numpy, SciPy, Pandas, Matplotlib, Scikit-learn
- System: Linux, Git, HPC clusters, Slurm, Singularity, Docker
- Languages: Italian (Native), English (Professional), Albanian (Elementary), French (Elementary)

Interests

Programming, Rubik's Cubes, Music, Movies/TV Series, Skateboarding, Street art

Reviewer

ICCV 2025, ICLR Workshops 2025, CVPR 2025, WACV 2025, IEEE TPAMI, IEEE TMM, Pattern Recognition, CVIU, MMSP 2024, ICML 2023 Workshops, ICPR 2022, Harms and Risks of AI in the Military (HRAIM)

Publications

Preprints

[P1] **D. Shenaj**, O. Bohdal, M. Ozay, P. Zanuttigh, U. Michieli, "LoRA.rar: Learning to Merge LoRAs via Hypernetworks for Subject-Style Conditioned Image Generation" (2024). `arXiv:2412.05148`.

Conferences

[C1] **D. Shenaj***, E. Fani*, M. Toldo, D. Caldarola, A. Tavera, U. Michieli†, M. Ciccone†, P. Zanuttigh†, B. Caputo†, "Learning Across Domains and Devices: Style-Driven Source-Free Domain Adaptation in Clustered Federated Learning", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) [acceptance rate first round=22.3%], 2023.

[C2] **D. Shenaj**, M. Toldo, A. Rigon, P. Zanuttigh, "Asynchronous Federated Continual Learning", IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), FedVision Workshop, 2023.

[C3] G. Rizzoli, **D. Shenaj**, P. Zanuttigh, "Source-Free Domain Adaptation for RGB-D Semantic Segmentation with Vision Transformers", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), Pretrain Workshop, 2024.

[C4] G. Rizzoli*, M. Caligiuri*, **D. Shenaj**, F. Barbato, P. Zanuttigh, "When Cars meet Drones: Hyperbolic Federated Learning for Source-Free Domain Adaptation in Adverse Weather", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) [acceptance rate first round=12.1%], 2025.

Journals

[J1] **D. Shenaj**, F. Barbato, U. Michieli, P. Zanuttigh, "Continual coarse-to-fine domain adaptation in semantic segmentation", Image and Vision Computing (IMAVIS), 2022.

[J2] **D. Shenaj***, G. Rizzoli*, P. Zanuttigh, "Federated Learning in Computer Vision", IEEE Access, 2023.

* indicates equal contribution, † indicates equal supervision