Donald Shenaj

Ph.D Student

Date of birth: 1997-10-20
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Research Interests

Federated Learning, Continual Learning, Domain Adaptation, Computer Vision

Work Experience

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

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

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

Education

Oct. 2021 - Present **Ph.D. in Information Engineering**, University of Padova, Department of Information Engineering, LTTM research group.
Supervisor: Pietro Zanuttigh.
Research topic: Federated Learning for Computer Vision.
Fellowship: University scholarship on free subject.

Oct. 2019 - Sept. 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.

Sept. 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.

Sept. 2011 - July 2016 **High School Diploma**, ITTS Leonardo Da Vinci, Rimini.
Grade: 100/100.

Computer Skills

- Programming and scripting: C, C++, Python, Matlab/GNU Octave, Bash, VHDL, LabVIEW, Java, JavaScript
- Typesetting: LaTeX, Markdown, HTML, CSS
- Scientific Computing: Numpy, SciPy, Pandas, Matplotlib, Scikit-learn
- Deep Learning: PyTorch, TensorFlow, Keras, OpenCV
- System: Linux, Git, HPC, Singularity, Slurm

Languages

Italian	Native proficiency
English	Full professional proficiency
Albanian	Elementary proficiency
French	Elementary proficiency

Interests

Programming, Rubik's Cubes, Music, TV Series, Skateboarding.

Attended Conferences and Seasonal Schools

- ICCV 2023, Paris France
- CVPR 2023, Vancouver Canada
- WACV 2023, Waikoloa Hawaii
- CIFAR DL+RL 2023 - Deep Learning + Reinforcement Learning Summer School, Montreal Canada
- GTTI MMSP 2023 - Thematic Meeting on Multimedia Signal Processing, Bressanone Italy
- IEEE/DEI SSIE 2022 - Ph.D. School of Information Engineering "Silvano Pupolin", Bressanone Italy
- GTTI MMSP 2022 - Thematic Meeting on Multimedia Signal Processing, Bardonecchia Italy
- Mostratec 2016 - International Science and Technological Fair, Novo Hamburgo Brasil
- Italian selection for EUCYS 2016 "I Giovani e le Scienze", Milano Italy

Reviewer

IEEE TPAMI, IEEE TMM, ICML 2023 Workshops, ICPR 2022

Publications

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.

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, in: Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, FedVision Workshop, 2023, pp. 5054–5062.

Preprints

[P1] G. Rizzoli, D. Shenaj, P. Zanuttigh, Source-Free Domain Adaptation for RGB-D Semantic Segmentation with Vision Transformers, arXiv preprint arXiv:2305.14269 (2023).

* indicates equal contribution, † indicates equal supervision