# Donald Shenaj

Ph.D Student

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in donald-shenaj

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### Research Interests

Federated Learning, Continual Learning, Domain Adaptation, Computer Vision

# Work Experience

May. 2023 - Visiting Researcher, Mila - Quebec AI Institute & Concordia University

Nov. 2023 Supervisor: Eugene Belilovsky.

Oct. 2021 - **Teaching Assistant**, University of Padova

Present M.Sc. courses: Computer Vision (22/23), Scientific computing with python (22/23), Machine Learning (21/22).

Mar. 2021 - Research Intern / Master Thesis, University of Padova, Department of

August 2021 Information Engineering, LTTM research group.

Supervisor: Pietro Zanuttigh.

#### Education

Oct. 2021 - Ph.D. in Information Engineering, University of Padova, Department of

Present Information Engineering, LTTM research group.

Supervisor: Pietro Zanuttigh.

Research topic: Federated Learning for Computer Vision.

Fellowship: University scholarship on free subject.

Oct. 2019 - M.Sc. in ICT for Internet and Multimedia, University of Padova.

Sept. 2021 Grade: 110/110 cum Laude.

Thesis: Coarse-to-Fine Learning for Semantic Segmentation across Multiple

Domains.

Supervisor: Pietro Zanuttigh.

Sept. 2016 - B.Sc. in Electronics Engineering for Energy and Information, University

Oct. 2019 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 - High School Diploma, ITTS Leonardo Da Vinci, Rimini.

July 2016 Grade: 100/100.

# Computer Skills

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

- o ICCV 2023, Paris France
- O CVPR 2023, Vancouver Canada
- O WACV 2023, Waikoloa Hawaii
- CIFAR DL+RL 2023 Deep Learning + Reinforcement Learning Summer School, Montreal Canada
- o Mila GFlowNet Workshop, Montreal Canada
- $\odot$  GTTI MMSP 2023 The matic Meeting on Multimedia Signal Processing, Bressanone Italy
- o IEEE/DEI SSIE 2022 Ph.D. School of Information Engineering "Silvano Pupolin", Bressanone Italy
- $\odot$  GTTI MMSP 2022 The matic Meeting on Multimedia Signal Processing, Bardonecchia Italy
- Mostratec 2016 International Science and Technological Fair, Novo Hamburgo Brasil
- o 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<sup>†</sup>, M. Ciccone<sup>†</sup>, P. Zanuttigh<sup>†</sup>, B. Caputo<sup>†</sup>, "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: IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), FedVision Workshop, 2023, pp. 5054–5062.
- [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).
  \* indicates equal contribution, † indicates equal supervision