

Curriculum vitae

Guglielmo Camporese

(pron. gool-yell-moe)

last update: 2023/02

Personal

**Birth:** Camposampiero (PD), Italy, on March 8<sup>th</sup> 1993. Italian citizen. Male.

**Residence:** Via Santa Caterina 4 Interno 1, 35121, Padova, Italy

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**GitHub:** <https://github.com/guglielmocamporese>

Work Experience

<b>Amazon Web Services AI Labs</b> <i>Applied Science Intern</i>	<b>Seattle, Washington</b> 2021/12–2022/09
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Worked on the Amazon Web Services AI Labs on the Rekognition team in a research project focused on video predictive understanding using deep learning models. In particular, I investigated and innovated how to anticipate and early-recognize events on videos before they occur.

<b>Amazon Alexa AI</b> <i>Applied Science Intern</i>	<b>Turin, Italy</b> 2020/06–2020/09
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Worked on improving recognition of speech with disfluencies in the Amazon Alexa Automatic Speech Recognition (ASR) team. During the project, I worked on the multi-lingual modeling of particular speech disorders, mining relevant datasets, designing and training neural network architectures, and delivering high-quality results.

<b>Aquifi Inc.</b> <i>Deep Learning and Computer Vision Engineer</i>	<b>Palo Alto, California</b> 2018/11–2019/10
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Implemented deep learning systems for anomaly detection on multi-view structured input images on highly imbalanced datasets using state-of-the-art and implementing custom CNNs. Worked with a variety of tools, including Python, TensorFlow, and C++, as well as HTML, javascript, and CSS for experiment visualizations.

Education

<b>Ph.D. Student in Brain Mind and Computer Science</b> <i>University of Padova, Department of Mathematics and Psychology</i>	<b>Padova, Italy</b> 2019–2023 (expected)
<b>MS degree in Telecommunications Engineering, 110/110 e Lode</b> <i>University of Padova, Department of Information Engineering</i>	<b>Padova, Italy</b> 2016–2019
<b>BS degree in Information Engineering</b> <i>University of Padova, Department of Information Engineering</i>	<b>Padova, Italy</b> 2012–2016
<b>Scientific High School</b> <i>Liceo Scientifico "Ettore Majorana"</i>	<b>Mirano, Venezia, Italy</b> 2007–2012

## Academic Work Experience

**University of Padova** **Padova, Italy**  
*Teacher Assistant* *2020/03–2021/03*

Teacher assistant for the machine learning class in the Data Science Master Degree. In particular, I lectured class lessons, prepared the laboratories, and I supervised and evaluated the students for their final project of the course.

**University of Padova** **Padova, Italy**  
*Thesis Co-Supervisor* *2019/09–2023/02*

During my PhD I co-supervised 9 Master Students (from the Computer Science and Data Science degree) and 1 Bachelor Student (from the Computer Science degree) in their final thesis.

**Service:** I served as a reviewer in top venues such as: ICCV-2023, CVPR-2023, CVPR-2021, ICPR-2020.

## Publications

**Conference:** G. Camporese, E. Izzo, L. Ballan, "Where are my Neighbors? Exploiting Patches Relations in Self-Supervised Vision Transformer", British Machine Vision Conference, London, UK, 2022. **[oral spotlight]** (BMVC 2022). (previously selected as oral spotlight at the "Transformers for Vision Workshop (T4V)" at CVPR 2022, New Orleans, Louisiana.)

**Conference:** N. Osman, E. Cancelli, G. Camporese, P. Coscia, L. Ballan, "Early Pedestrian Intent Prediction via Features Estimation", IEEE International Conference on Image Processing, Bordeaux, France, 2022. (ICIP 2022)

**Conference:** N. Osman, G. Camporese, L. Ballan, "TAMFormer: Multi-Modal Transformer with Learned Attention Mask for Early Intent Prediction ", International Conference on Acoustics, Speech and Signal Processing, Rhodes Island, Greece, 2023. (ICASSP 2023).

**Conference:** Y. Guo\*, G. Camporese\*, W. Yang, A. Sperduti, L. Ballan, "Conditional Variational Capsule Network for Open Set Recognition", International Conference on Computer Vision, Virtual, 2021. (ICCV 2021).

**Conference:** N. Osman, G. Camporese, P. Coscia, L. Ballan, "SlowFast Rolling-Unrolling LSTMs for Action Anticipation in Egocentric Videos", International Conference on Computer Vision, Virtual, 2021. (ICCVw 2021).

**Conference:** V. Mendelev\*, T. Raissi\*, G. Camporese, M. Giollo, "Improved Robustness to Disfluencies in RNN-Transducer Based Speech Recognition", International Conference on Acoustics, Speech and Signal Processing, Toronto, Canada, 2021. (ICASSP 2021).

**Conference:** G. Camporese, P. Coscia, A. Furnari, G. M. Farinella, L. Ballan, "Knowledge Distillation for Action Anticipation via Label Smoothing", International Conference on Pattern Recognition, Milan, Italy, 2020. (ICPR 2020).

## Thesis

**PhD:** "Prediction of Activities and Visual Concepts Under Complex and Changing Conditions". Supervisor: Lamberto Ballan, Co-Supervisor: Gianluca Campana

**MS:** "Semantic Segmentation for Visual Inspection". Supervisor: Pietro Zanuttigh

**BS:** "Algorithms for Sound Synthesis through Physical Modeling". Supervisor: Federico Avanzini

## Computer Skills

**Languages and Tools for Machine Learning and Computer Vision:** Python, PyTorch, PyTorch Lightning, TensorFlow, NumPy, Keras, OpenCV, Scikit-learn, Pandas, Matplotlib

**Other Languages and Tools:** Git, HTML, Flask, C/C++, Javascript, Matlab, Mathematica, Arduino

## Languages

**Italian:** Mother tongue

**English:** Full professional proficiency

**Extra**

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- 2019: Certification** - Fundamentals of Reinforcement Learning, *Coursera*
- 2018: Certification** - Deep Learning Specialization, *Coursera*
- 2018: Certification** - Sequence Models, *Coursera*
- 2017: Certification** - Convolutional Neural Networks, *Coursera*
- 2017: Certification** - Structuring Machine Learning Projects, *Coursera*
- 2017: Certification** - Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, *Coursera*
- 2017: Certification** - Neural Networks and Deep Learning, *Coursera*
- 2011: Diploma** - Diploma in Music Theory, *Conservatory Giuseppe Tartini*, Trieste

**Side Experience**

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<b>Math/Physics Tutor</b> <i>Private lessons</i>	<b>Padova, Italy</b> <i>2016–2018</i>
<b>Piano Teacher</b> <i>La Casa Della Musica</i>	<b>Padova, Italy</b> <i>2016–2017</i>

**Interests**

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- Deep learning, machine learning, computer vision, playing piano, guitar and synths, pruding electronic music.