

# Curriculum vitae

## Guglielmo Camporese

last update: 2022/10

### Personal

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

**Residence:** Via Desman 221/e, 35010, Borgoricco (PD), Italy

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**Linkedin:** <https://www.linkedin.com/in/guglielmocamporese/>

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

### Work Experience

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#### Amazon Web Services AI Labs

Seattle, Washington

*Applied Science Intern*

2021/12–2022/09

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.

#### Amazon Alexa AI

Turin, Italy

*Applied Science Intern*

2020/06–2020/09

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 modelling of particular speech disorders, mining relevant datasets, designing and training neural network architectures and delivering high quality results.

#### University of Padova

Padova, Italy

*Machine Learning Teacher Assistant*

2020/03–2021/03

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

#### Aquifi Inc.

Palo Alto, California

*Deep Learning and Computer Vision Engineer*

2018/11–2019/10

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 experiments visualizations.

### Education

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#### Ph.D. Student in Brain Mind and Computer Science

Padova, Italy

*University of Padova, Department of Mathematics and Psychology*

2019–2023 (expected)

#### MS degree in Telecommunications Engineering, 110/110 e Lode

Padova, Italy

*University of Padova, Department of Information Engineering*

2016–2019

#### BS degree in Information Engineering

Padova, Italy

*University of Padova, Department of Information Engineering*

2012–2016

## Publications

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

**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:** 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:** 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

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**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

## Selected MS Projects

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**Learning Invariances in Speech Recognition.** [\[github\]](#)  
*Speech Recognition with CNNs and data augmentation.*

**Speech Classification, a dictionary approach with MFCC and Dynamic Time Warping** [\[link\]](#)  
*Classification of audio commands using dynamic time warping.*

**A Deep Introspection on Generative Adversarial Networks** [\[github\]](#)  
*Study and implementation of a GAN with Goodfellow's approach.*

**Text Mining Complex Network** [\[link\]](#)  
*Mining of context informations from a wikipedia web page through the complex network theory.*

## Computer Skills

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**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

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**Italian:** Mother tongue

**English:** Full professional proficiency

## Extra

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**2019:** Fundamentals of Reinforcement Learning, *Coursera*

**2018:** Deep Learning Specialization, *Coursera*  
**2018:** Sequence Models, *Coursera*  
**2017:** Convolutional Neural Networks, *Coursera*  
**2017:** Structuring Machine Learning Projects, *Coursera*  
**2017:** Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, *Coursera*  
**2017:** Neural Networks and Deep Learning, *Coursera*  
**2011:** 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, piano, guitar, electronic music production