

## Personal Information



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*Gender: Male, Birth Date: 10/02/1998, Mother Tongue: Italian*

## DEGREE

Master Degree in ICT for Internet and Multimedia at Università degli Studi di Padova with a final evaluation of 110/110 cum laude.

## PROFESSIONAL EXPERIENCE

- Lab teacher for courses of the ICT for Internet and Multimedia master degree in Università degli Studi di Padova. In particular, the main covered courses were:
  - 1) Digital Forensics (from 1/03/23 to 1/07/23) for a total of 5 lectures (10 hours) plus lab preparation.
  - 2) Neural Networks and Deep Learning (from 1/10/22 to 1/03/22) for a total of 8 lectures (16 hours) plus lab preparation.
  - 3) Digital Forensics (from 1/03/22 to 1/07/22) for a total of 5 lectures (10 hours) plus lab preparation.
- Stage at Athonet srl from 11/07/2016 to 10/09/2016, as a programmer (C, Python) and from 3/07/2017 to 09/09/2017 as a frontend and backend web developer (Javascript, Typescript, React, Python, flask, SQL).

## SCHOOL AND EDUCATION

### 2021- Ongoing

Ph.D. in Information Engineering at Università degli Studi di Padova, with main research topics on learned image and point cloud coding and side projects on fake audio detection and signal processing on data acquired from sensors in BLE devices. Currently spending 6 months (01/07/2023-31/12/2023) in Lisbon (Portugal) under the supervision of professor Fernando Pereira with a research topic focused on deep learning based codecs for point cloud geometry.

### 2019-2021

Master Degree in ICT for Internet and Multimedia at Università degli Studi di Padova, final evaluation: full marks and honors (110 cum laude) with GPA of 30/30. The topic of the final thesis is Point Cloud compression with Auto-encoders.

### 2016-2019

Bachelor Degree in Information Engineering at Università degli Studi di Padova, final evaluation: full marks and honors (110 cum laude) with GPA of 29.41/30. The topic of the thesis was information leakage from encrypted traffic generated by IP cameras. This work led to the publication of [C1].

## PERSONAL SKILLS

### Foreign Languages

- English: Studied at school (for 13 years), practiced with mother tongue relatives and during master/PhD (C1).
- Portuguese: Self-studied, practiced during Ph.D. period abroad in Lisbon (B1).
- French: Studied in middle school, practiced during cultural exchange (A2).
- Italian: Mother tongue (C2).

### Computer Skills

- Very good knowledge of C/C++, Python, Java, Latex good knowledge of HTML, CSS, SQL, Javascript/Typescript acquired at school, during the stages, and through self-learning.
- Very good knowledge of scientific and machine learning python libraries (with particular focus on computer vision) like *numpy*, *scipy*, *pandas*, *sklearn*, *tensorflow*, *pytorch*, etc...
  - Very good git knowledge acquired during the stage and when implementing code for university/personal projects.
- Good knowledge of Blender, Unity (3D modelling and game engine) and basic Photoshop knowledge.
  - Good experience with parallel computing infrastructures, schedulers (e.g. SLURM), and containers (e.g. Singularity) acquired during my Ph.D.

## OTHER INFO

### Awards

- Ph.D. scholarship by Università degli Studi di Padova (First in the final ranking), Ph.D. scholarship by Università degli Studi di Trento (declined because of the grant in Padova).
- Three times awarded scholarship 'Mille e una lode' by Università di Padova (awarded to the top 3% students) 2017/2018 – 2018/2019 – 2020/2021.
- Awarded SEMP Scholarship 2020/2021 with destination: EPFL Lausanne, Switzerland (declined due to the Coronavirus situation).

## Conference Publications

[C1] Mari, D., Piazzetta, S. G., Bordin, S., Pajola, L., Verde, S., Milani, S., & Conti, M. (2021, June). Looking Through Walls: Inferring Scenes from Video-Surveillance Encrypted Traffic. In ICASSP 2021-2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 2595-2599). IEEE.

[C2] Mari D. and Milani S., "Features Denoising for Learned Image Coding," 2022 10th European Workshop on Visual Information Processing (EUVIP), 2022, pp. 1-6, doi: 10.1109/EUVIP53989.2022.9922837.

[C3] Mari, Daniele, Federica Latora, and Simone Milani. "The Sound of Silence: Efficiency of First Digit Features in Synthetic Audio Detection." 2022 IEEE International Workshop on Information Forensics and Security (WIFS). IEEE, 2022.

## Journal Publications

[J1] Camuffo, E., Mari, D. and Milani, S., 2022. Recent Advancements in Learning Algorithms for Point Clouds: An Updated Overview. Sensors, 22(4), p.1357.

[J2] Mari, Daniele, Elena Camuffo, and Simone Milani. "CACTUS: Content-Aware Compression and Transmission Using Semantics for Automotive LiDAR Data." Sensors 23.12 (2023): 5611.

## Participation to Conferences and Seminars

- 16-17 January 2023 - "GTTI SPS thematic meeting" in Bressanone with poster "The Sound of Silence: Efficiency of First Digit Features in Synthetic Audio Detection".
- 12-16 December 2022 - "WIFS 2022" online conference with the oral presentation "The Sound of Silence: Efficiency of First Digit Features in Synthetic Audio Detection".
- 11-14 September 2022 - "Euvip 2022" in Lisbon with the oral presentation: "Features Denoising for Learned Image Coding".
- 5-7 September 2022 - "GTTI meeting" in Padova with poster entitled "Content aware compression for LIDAR Point Clouds".
- 7-8 February 2022 - "GTTI SPS thematic meeting" in Bardonecchia with poster entitled "Content aware compression for LIDAR Point Clouds".
- 7 September 2021 - Pitch competition concurring with the presentation: "Syndrome Based Autoencoder for Learned Point Cloud Coding".
- 14-20 October 2014 – Conference "What made us human" – Erice, Fondazione Ettore Majorana – Main topic: Human evolution – Language: English – Speakers: Major world exponents on the subject (Ian Tattersall, Giorgio Manzi, etc . . .).
- 14-17 December 2014 – Conference "EEE : Extreme Energy Events" – Erice, Fondazione Ettore Majorana – Main topic: Cosmic rays and their detection techniques – Language: Italian – Speakers: Italian physicists introduced by prof. Antonino Zichichi.

## Scientific Reviews

Carried out many reviews of scientific papers for major journals (e.g. Transactions on Multimedia) and conferences (e.g. ICIP, ICME).

## Courses

- 11-15 July 2022 "Summer School on Information Engineering" (SSIE) in Brixen.
- 2018: Deep Learning Specialization (Coursera) held by Andrew Ng.
- 23-29 August 2015 – Summer Math Camp – Olympic Math stage (Number Theory, Combinatorics, Geometry, Algebra) Organized by Mathesis Vicentina – 4th level course - Paderno del Grappa (TV). Teachers: Students and Ph.D. from Università Bocconi di Milano and Scuola Normale di Pisa.
- 2014 Participation in the European project "Comenius" – Main topic "Teaching Biology in English – DNA Replication, Protein Synthesis, and Preimplantation Genetic Diagnosis". The project lasted for 20 days 10 of which were carried out in Italy and the remaining at Christliche Schule, Dresden – Language: English.

## Math/CS competitions

- Four times national finalist at "Giochi Matematici Bocconi", two times qualified in the top 50.
- Semi-finalist in the "Olimpiadi di matematica a squadre", Cesenatico 2015.
- Two times qualified to the semifinals for the "Olimpiadi di Informatica".
- Google Hash Code optimization challenge in 2019, 2020, 2021 (1377 position in the world).

## Driving License

A1 e B.

## Hobbies

- Digital Art and 3D modeling (helped developing creativity).
- Volleyball, beach volley, and gym (helped develop teamwork and persistence).

## Other

- Ph.D. students representative in the Department Council from 01/2022 to 01/2024
- 2015 Basic Life Support – Supporto base delle funzioni vitali secondo le linee guida IRC – Ilcoor 2010
- AVIS blood donor

Date: July 9, 2023

