



Elena Camuffo

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Date of birth: 15/05/1997 Nationality: Italian Mother tongue: Italian

EDUCATION

Graduate studies

MSc in ICT for Internet and Multimedia - University of Padova

September 2019 - September 2021

Final Grade: 110 (over 110) cum laude

Final Degree Project: Curriculum and Contrastive Learning in LiDAR Semantic Segmentation

Brief Description: LiDAR semantic segmentation has gained increasing attention due to its ability to accomplish fine-grained scene understanding. In this work, we first identify clusters of fine-level classes into macro categories via self-taught spectral clustering applied on baseline predictions. Data oriented deep learning methods, such as Contrastive Learning and Curriculum Learning techniques are then applied to increase the separation among different classes and provide a better understanding of the scene content. Our approach has demonstrated balanced class-wise results and faster convergence with respect to the standard learning methods, outperforming state-of-art approaches with no architectural changes.

Supervisors: Prof. Simone Milani (University of Padova) and Dr. Umberto Michieli (University of Padova and Samsung Research UK)

Grade Point Average: 30 (over 30) cum laude

Undergraduate studies

BSc in Information Engineering - University of Padova

September 2016 - September 2019

Final Grade: 102 (over 110)

Final Degree Project: Mixed Reality Applications in Medical Therapy

Brief Description: Mixed Reality (MR) can be used as an instrument of entertainment and pain reduction in medical and surgical therapies. Applications were developed and deployed on real MR headsets, HoloLens and Magic Leap One, to be tested in pediatric hospitals. The objective and subjective performances of the two headsets are evaluated in order to make a comparison.

Supervisors: Prof. Simone Milani (University of Padova), Dr. Alberto Tono and Hannah Luxenberg Tono (Dreamship Studios and Tactic, San Francisco, California, USA)

High School

Liceo Scientifico Statale Giuseppe Berto, Mogliano Veneto (TV)

September 2011 - July 2016

Final Grade: 93 (over 100)

PROFESSIONAL EXPERIENCES

♦ Teaching Assistant - University of Padova

September 2020 - Present

MSc course: *3D Augmented Reality* held by Prof. Simone Milani. (A.Y. 2020-21, 2021-22)

MSc course: *Digital Forensics* held by Prof. Simone Milani. (A.Y. 2020-21)

MSc course: *Digital and Interactive Multimedia* held by Prof. Federica Battisti. (A.Y. 2021-22)

MSc course: *Usability and User experience* held by Prof. Federica Battisti. (A.Y. 2021-22)

♦ Research Intern - LTTM laboratory (University of Padova)

July 2019 - September 2019, March 2021 - Present

Internship at the laboratory of telecommunications and multimedia technologies for both bachelor's and master's final thesis projects.

♦ Web Developer - Technode S.R.L. (Via Venezia, 91, 35121 Padova PD)

June 2014 - July 2014

Description: Internship. Work as a front-end web developer.

Programming languages: HTML, CSS, JavaScript, .NET.

OTHER EDUCATIONAL EXPERIENCES

♦ **Seasonal School "AIRONE, Artificial Intelligence, RObotics and exteNded rEality"**, Scuola Superiore Sant'Anna, Pisa. Winner and awarded scholarship grant (2021).

♦ **Online Courses:** Project Management Game, Area S.R.L., Padova (2021), Unity 3D workshops, Istituto Volta, Milano (16/12/2020 - 09/01/2020), Zbrush basic course, Bigrock (2020), Google dev. Challenge, Android Nanodegree program, Udacity (2017).

♦ **Courses on Olympic Math Games** (Number Theory, Combinatorics, Geometry, Algebra) organized by Liceo Statale Leonardo da Vinci (Treviso), held by teachers from University Normale of Pisa (2013-2015).

PERSONAL SKILLS

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2/C1	B2/C1	B2/C1	B2/C1	B2/C1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Trinity College London B2 certificate (2015)

Other language

French (A2)

Computer skills

Advanced: MATLAB®, LaTeX, Python, Java, Microsoft Office, Unity 3D, C#, Gimp, Blender, Tensorflow, Pytorch

Intermediate: C/C++, Bash, ROS, Git, PostgreSQL

Basic: Zbrush, Photoshop, MeshLab

Other skills

- ♦ **Public Speaking:** public speaking course during master studies and teaching assistant work.
- ♦ **Teamworking:** group projects and papers. Collaboration with external entities (Dreamship Studios and Tactic San Francisco, California USA) for bachelor's thesis. Active work as part of a group in LTTM and during internship at Technode S.R.L.
- ♦ **Flexibility and Problem Solving:** Lab experiences' preparation in teaching assistant work. Olympic Math Games achievements. Projects developed during master studies and Ph.D.
- ♦ **Self-motivation:** academic achievements and short duration of studies.
- ♦ **Ability to work under pressure and time management:** teaching assistant work, projects, seasonal school award and exams preparation.

ADDITIONAL INFORMATION

Awards

- ♦ Winner of AIRONE Seasonal School, Scuola Superiore Sant'Anna, Pisa. Awarded scholarship grant, "Il talento all'Opera Onlus" (2021).
- ♦ Winner of *best 7 presentations*, APCCAS conference (2021).
- ♦ Second place award RTSI, my research in 5 minutes (2021).
- ♦ Awarded scholarship grant, "ARCA, enel" (2016).
- ♦ Semi-Finalist at Olympic Math Games in Teams, Cesenatico (2015).

Other

- ♦ **"RTSI, young researchers' pitch"**, *my research in 5 minutes* competition for young researchers. Online conference organized by IEEE committee in collaboration with University Federico II of Napoli (2021).
- ♦ **IEEE member & Reviewer for IEEE Transaction of Multimedia** (2021).
- ♦ **"It's girls DEI"**, co-organizer and speaker. Conference, transformed in a promotional video (pandemic reasons) promoted by the University of Padova, in collaboration with Laura Crosara, Prof. Gaudenzio Meneghesso and Prof. Leonardo Badia. *"The aim of this initiative is to promote the role of women within the Department of Information Engineering, presenting the excellent work of students and researchers."* (2020).
- ♦ **"Venetonight Researchers' night"**, presentation of my bachelor's thesis project to people at "Palazzo Bo", Padova (2019).

PUBLICATIONS

International Conferences

Elena Camuffo, Luca Gorghetto and Leonardo Badia, *"Moving Drones for Wireless Coverage in a Three-Dimensional Grid Analyzed via Game Theory"*, APCCAS 2021.

Daniele Mari, Elena Camuffo and Simone Milani, *"Content Aware Compression for LiDAR Point Clouds"*, submitted to ICASSP 2022.